

Aviation News

MCGRAW-HILL PUBLISHING COMPANY, INC.

JULY 17, 1944



Aircraft Spokesmen Look to the Future: While preparing for peace, the aircraft industry is intensifying military production and these industry leaders, speaking for the Aeronautical Chamber of Commerce, presented the aviation point of view of the future at a Senate committee hearing last week. Left to right, Joseph T. Geuting, Jr., General Aircraft; J. Carlton Ward, Jr., Fairchild; Eugene E. Wilson, United Aircraft and Harry B. Woodhead, Consolidated Vultee.

Patterson Urges Preservation of Plane Plant

Under-Secretary of War tells Senate group that only a large scale operation will preserve our world air leadership..... Page 11

See Strong Air Industry As Answer to Problems

Manufacturers' report to Murray Committee cites need of constant research and preparedness and urges broad aviation policy..... Page 7

Port Executives Stress Small Operator Importance

Comprehensive program formulated for development of private flying, local airport construction standardization of practices..... Page 13

Manufacturers Council Gets Major Role in ACCA

Group, with Personal Aircraft body, emerges as main operating unit of Chamber as a result of revitalization program..... Page 15

Nazis Feel Effect of Battle on Strategic War Materials

Concentrated raids on oil sources expected to be reflected in further sharp curtailment of Luftwaffe and mechanized army..... Page 19

Test Plan to Absorb Loss on Company-Owned Surplus

Materials may be sold to the government for \$1 and adjustments made in renegotiation and tax proceedings..... Page 34

ODT Asks Air Priorities Cut in Move to Ease Congestion

Also suggests complete review of airline advertising with view to deterring rather than encouraging plane travel..... Page 39

Industry Asks Cutbacks First in Converted Plants

Spokesmen suggest that cancellations become effective first among temporary manufacturers with post-war markets..... Page 30



X Gun in a jam . . .

When stoppage occurs in the famous "fifty" machine guns used on our war planes, it's quickly detected and cleared by a "thinking machine." This Kidde Pneumatic Machine Gun Charger, operated by compressed gas, corrects gun-charging troubles or stoppages, gets gun firing again—all within one-half second!

Gases-under-pressure have been harnessed by Walter Kidde & Company to do many unusual jobs for the aviation industry. Power actuation by pressure gases may provide a solution to a problem of yours. Our engineers are ready to help you work out mechanisms adapted to your needs. Just drop a line to our Research and Development Department.



WALTER KIDDE & COMPANY, INC., 140 CEDAR STREET, NEW YORK 6, N. Y.

THE AVIATION NEWS

Washington Observer

THE P-47—There were recurrent strong rumors only a month ago that the Army Air Forces was swingin' back to the use of only liquid-cooled engines for its fighters. But the new increased schedule for P-47's at least defers the swing. The P-47 has proved virtually incomparable as an all-purpose fighter and has won at least a partial victory for air-cooled engines.

LABOR BEFORE CONGRESS—There was an interesting contrast between the presentation made by executives of the aircraft industry and labor leaders before the Senate Committee. Senator Murray is known to be a good friend to labor, but the most obvious point that labor would receive an extremely sympathetic hearing. But Richard Frankenstein, UAW-CIO vice-president, saw fit to entreat roundly the Senator and Congressmen and drew a stinging rebuke for his pains. The day before, Murray and Z. Carlton Ward, Jr., got into a serious discussion of the role played by labor in the French debacle, and by contrast Ward's handling of himself was considered statesmanlike.

POSS'D PRODUCTION—The recent announcement by Ford that 5,000 "Liberators" have been produced by that company, and that a high daily output rate is being maintained, puts Ford in a position which many said about two years ago he would not be able to attain. It is true that many ill-advised production claims were made for Ford when the Willow Run project started. But the fact remains that difficult obstacles were overcome, that Ford is building bombers at a record-breaking rate, that his output is a highly important factor in over-all aircraft production and that the efficiency rate at Willow

Run has risen to a point reported well above that of many old-line aircraft manufacturers.

LAGS ACKNOWLEDGED—Lags in the production of some weapons of war are acknowledged by War Production Board officials and the important reasons for the slowness are difficult to identify. For one, manpower shortage is not blamed. There are reports that some subcontractors are easing out of war production work to get into a better position for civilian production and that prime contractors have taken over projects formerly handled by subcontractors. Meanwhile, military leaders warn against overoptimism, while the Foreign Economic Administration and Germany will be in a nearly hopeless position economically by the end of the year and that her defeat in 1945, if not in 1944, is a certainty.

MISFIRE—Although it doesn't affect the aviation industry directly, criticism in some Army circles about the distribution of expensive miniature models by a radio manufacturer should be heeded. This company makes a highly effective product, but the distribution of his product did not save him when he handed out miniature models of the truck until to many high-ranking officers. The sets probably cost a maximum of \$30 each. It was a wise gesture, but it misfired. Even in the Pentagon some people are getting economy-minded.

DISARMAMENT AGAIN?—Even today, with the war furiously underway, aviation spokesmen before Congressional committees are finding that the pre-war theory of disarming is an example to the rest of the world in gaining



Model of ATC's new terminal under construction at Washington National Airport.



"MICROMETER CONSCIOUS"

*in the quantity production
of minute precision parts*

Any-time manufacturers of major prominence now are relying upon the micrometer-conscious Wadsworth Small Parts Division for scores of parts so minute and precise that their quantity production is difficult or expensive for the average plant.

At Wadsworth, such production is customary, and meets the highest critical standards.

Here, a unique machine shop and workers who check precision are intimately associated under one roof. They combine special operations to assay pieces and carry others through in their entirety, in great quantities.

We welcome conversations with all companies who intend to be power factors in their fields and will be glad to discuss the matter of applying Wadsworth skills to your special needs.

WADSWORTH FACILITIES

*For Making
For Assembly
For Testing
Model Building
Milling
Shaping
Turning
Boring
Drilling
Machining
Heat Treatment
Annealing
Laser Annealing
Polishing
Plating
Plating-Cleaning
Rust Removing
Product Deterioration
Metal Laboratory
Engineering Design
Product Design*

CURRENTLY SERVING THESE INDUSTRIES

*Aerospace
Automotive
Bearing
Electronics
Instrument
Machine Tool
Small Arms
Refrigeration*

SMALL PARTS DIVISION

Wadsworth
WATCH CASE CO., INC.
DAYTON, OHIO, MEMBER OF CINCINNATI, OHIO
PHONIC COLUMBIA 8504 • 100,000,000 EXCHANGED



Wadsworth is firmly rooted in many years of exacting precision of minute parts. It has been the leader in the field of minute precision parts for the future needs of industry and the armed forces.

VOLUME I - NUMBER 41

ACCA Sees Strong Air Industry Answer to Defense, Job Problems

Manufacturers' report to Murray Committee cites need of constant research and preparation as well as trade and cultural benefits resulting from broad aviation policy.

By WILLIAM G. KEY

The aircraft industry made its most effective presentation in years before a Congressional body last week, a program for the future of aviation and its relation to the economy of the nation, offered in such detail as to make its case virtually irrefutable.

In its statement, leading spokesman for the industry contended that the American people and the aircraft industry have a long-range partnership in planning the future of domestic and international air transport—and that investment in air power will pay rich dividends in future security, economic progress, employment and in the broad advance of civilization through relative military security and the elimination of frontiers and promotion of international understanding.

Presented by ACCA Spokesman—The industry's viewpoint to Congress was summed up through the War Cabinet Subcommittee of the Senate Military Affairs Committee. Four spokesmen for the Aeronautical Chamber of Commerce pictured the future of the industry in broad strokes before the subcommittee headed by Senator Murray (D-Mass.).

The master need, Eugene E. Wilson, vice chairman of United Aircraft and chairman of the board of governors of the ACCA, told the Murray body, is the maintenance of air power as the aircraft industry is moved from war to peace. Technological development through competitive industry is the key to air power, Wilson said, making that technological drive to remain a national priority the principle of advancing technological development of aviation through competitive private industry.

severance pay provisions through resumption of labor agreements in the industry, and would trust on National War Labor Board concurrence.

The spokesman stressed that the industry represents a large share of the general problem of the reallocation of labor and that the problem is not that alone of the aircraft industry but of the national economy as a whole. The industry, Mr. Wilson warned, may have difficulty in meeting its present obligations, to say nothing of assuming additional burdens.

Aircraft Workers' Demand—On the other hand, Frankenstein said that aircraft workers would demand not only severance pay—eight weeks pay for all aircraft of longer than two years in service for service between six months and three years—but also monetary provisions that offer in some measure an orderly procedure for reabsorbing the returned servicemen, and increased wage rates to compensate for reduction in overtime and hours worked per week.

Frankenstein minimized that the aircraft industry is less concerned with reconversion problems and not enough with post-war planning, that labor is not being consulted on reconversion problems of all industry; that the armed services in asking a com-



Woodhead Explains Industry's Viewpoint: Harry Woodhead, president of Consolidated Vultee, is shown testifying at a hearing of the War Compensation subcommittee of the Senate Military Affairs committee. Left to right, who also appeared before the committee, are J. Carlton Ward, Jr., Fornifold; Eugene E. Wilson, United Aircraft, and back to camera, Joseph T. Gestring, General Aircraft.



Aircraft Hearing Draws Crowd Leading spokesman for the aircraft industry testified last week before a Senate subcommittee of the Senate Military Affairs committee, drawing a large crowd of spectators, part of which is shown above.

united high level of production are attempting to throw "discreet" as war workers," that Congress is not acting fast enough to provide "adequate unemployment compensation"; that air transport must reduce its rates, that a National Airlines Development Board should be created; and that later rates may have a voice on this council, and that wage rates should be increased sufficiently to a high enough level of consumer purchasing power to expand private flying.

Northrop Plan. — The Northrop Plan for post-war employee relocation was submitted to the committee by LaMonte T. Cebot, chairman of the board and general manager of Northrop. Through the Northrop Plan he said, it is hoped to channel skilled employees back into industries for which the company was fitted by previous experience. The Northrop Plan first was outlined in the March issue of *Aviation magazine*.

In order that the nation may have a strong and vital post-war aircraft industry, Harry Woodward, president of Consolidated Vultee, told the Murray body that the government should now permit the aircraft industry to use a part of its engineering, tooling and manufacturing facilities for development of civilian aircraft, and should make available to each contractor-fee, as well as Ex-Ex-lease manufacturers, at a nominal cost the design and engineering data, tooling and other facilities developed for his own military aircraft which might be adaptable.

at least in part, to his civilian outfit.

Employment Program. — As long as there is no interference with the war effort, Mr. Woodward said, it is undoubtedly to the benefit of the country as a whole to have all opportunities for post-war employment prepared for in advance, that production and employment

may start promptly when the war ends.

Mr. Woodward also urged that the government immediately liberalize policies in regard to transport airlines with emphasis on development of a planned and integrated feeder line system, increased use of aerial, immediate release of more planes to the airlines and further development of cargo lines, both foreign and domestic.

Technical Development. — The fact that technical development of aircraft engines has been incorporated by J. Carlisle Ward, Jr., president of Fairchild Engine and Airplane Corp., who pointed to British development of radar and German use of the ribbon bombs both of which first were utilized in this country. Mr. Ward developed the lesson of France, to which country he headed a production mission when that country's aircraft industry virtually collapsed under the war tempo strains. The nationalized engine factory was the worst example, Mr. Ward said and the entire industry had become a political football. France, he pointed out was not given time to work herself out of her inferior position.

Even the Germans made the mis-

Industry's Problem

To illustrate the complex problem of building a civilian aircraft and the need for coordinated technical and industrial resources, Mr. Ward, Jr., president of Fairchild, used the following information for the Murray Committee about the Flying Fortress supplied by W. E. Bell, Boeing vice president in charge of engineering.

The Flying Fortress was designed in 1934 and first flew in the summer of 1939. It was the first of the four-engined, long-range, heavy bombardment airplane. The basic design was good, yet between the prototype and the current model, the B-17G, there has been an enormous expenditure of engineering man-hours in redesign, development and research.

In the YB-17 series, 120,000 engineering man-hours were expended, primarily on the turbines superchargers for high-altitude performance. An additional 280,000 man-hours were expended in the B-17Gs (the production aircraft) smoothing out bugs, improving overall performance. In

take of superimposing government direction of basic policies on private management of aircraft companies. This resulted in near total governmental direction of the government-owned aircraft and Mr. Ward, such as the freezing of models to produce an quantity and lack of any emphasis on aircraft as defensive as well as offensive weapons.

Civil Need of Research. — Mr. Ward then detailed the enormous and complex problem of bringing planes from design to combat stages and the length of time it takes to perfect combat aircraft in support of his contention that constant research and development will be vital to the maintenance of American air power. He cited the more than 2,000 changes made to the Boeing Flying Fortress to bring it to its present stage as a first-class fighting airplane.

Our country cannot expect to

Aviation's 'Musts'

Some of the things the aircraft industry must do during and after the adjustment of the reconversion period as outlined by Eugene F. Wilson, vice-chairman of United Aircraft and chairman of the board of governors of the Aerospace Chamber.

We must not only restore adequate air force if we are to achieve air power, but we must advance the design of all aircraft and produce new designs.

We must train combat crews and ground personnel, extend meteorological and navigational knowledge and facilities, improve our engines and our instruments.

We must increase landing facilities and extend accuracy.

We must provide the research.

We must improve our materials and simplify our manufacturing processes.

We must increase our rigs and tools of local assembly facilities in midwest, carrying as many as possible of our thousands upon thousands of skilled workers so that our industry will not lose their contribution to air power.

In addition, Wilson said, we have an urgent interest in staying in business on a sound basis; to make a reasonable profit while efficiently serving the post-war aircraft needs of the nation.

Maintaining adequate surfaces at such strength and in such state of readiness as to preclude a successful assault upon our country or its possessions.

Acquiring and maintaining air power dedicated to our security and overseas trade.

Facilitating the orderly and economic expansion of domestic and international air transport and private flying.

Preserving a strong aircraft manufacturing industry.

This program agrees, in substance, with that advanced by the spokesman for the aircraft industry who testified earlier.

ACCA Gives Views On Plane Disposal

Agrees in general with Harvard report but presents several objections to Murray Committee.

Aerospace Chamber of Commerce agrees generally with the surplus airplane disposal report of the Harvard School of Business Administration, but presented to the War Contracts Subcommittee of the Senate Military Affairs Committee several objections to the plan. It also outlined its views as expressed to the Pogue Surplus Aircraft Advisory subcommittee on the general policies to be followed in disposing of surplus craft.

An air power, he said, presupposes several elements, among them airplanes, trained personnel, technical skills, management and productive capacity. All are essential, Mr. Ward said, adding that a strong industry must be maintained to insure operating productive capacity at least equal to the current needs of the armed forces. Additional capacity, he declared, postwarly through stand-by plants should be available and ready as the necessity arises.

To Seek to Guard Marines. — Undersecretary of War Patterson told the Committee, "We expected large numbers of surplus military aircraft must be sold "in a way that will not have a bad effect on the markets of the aircraft industry." He added that he regarded it as vitally necessary for the Government to retain the eight Government-owned aircraft assembly plants as a reserve for any future emergency. It might be desirable, he said, to add several DC aircraft and aircraft engine plants to the last, but he did not specify which ones.

Americus L. Gates, assistant Secretary of the Navy for Air, agreed with Patterson that certain war plants should be made by one central government agency created by legislation, the Murray Committee was told.

Military planes maintained by foreign nations should be scrapped, the Chamber believes, and surplus planes should be sold, leased or bartered to friendly foreign nations under control of the War, Navy and State Departments.

Wherever possible, Mr. Wood-

head said, plane sales should be made through manufacturers who originated the design, and overhaul and reconditioning should be done by qualified manufacturers.

The ACCA document says that care be taken to avoid wholesale disposal of smaller planes to brokers or speculators who might hold them over the market for several years.

Trainers—Mr. Woodhead pointed out that present, basic and advanced trainers are built for military use only and are not suitable for civilian use. The ACCA document agrees with the Senate report that these planes should be sold for a nominal price and urged that they be given to schools and colleges for military training use only. The program for their use in schools and colleges should be in the nature of an RTOC program, and personal flying training should not be influenced by higher requirements of the suggested RTOC program, Mr. Woodhead said.

ACCA also disagreed with the Harvard report suggestion that major components be stripped from planes abandoned overseas and reconditioned for use in this country, contending that these instruments are complex and designed for use in particular ships and that their reuse would be as dangerous as reuse of planes misappropriated by foreign governments.

Airfields should be made available principally for commercial or personal flying at minimal cost to states, counties or cities, with the upkeep and operating costs to be assumed by the local political subdivision with assistance from the government where necessary.

Fairchild Contract

Fairchild Aircraft of Binghamton, N. Y., signed a contract with Curtiss-Wright for production of forward and aft center fuselage sections for the C-46 Convoy, twin-engine transport.

Gus Evans, head of the Contracts and Service Department, said production will begin in two months and that preliminary tooling and engineering work already have been started.

Stecker Heads Unit

The Ninth U. S. Air Force Thundertail group is now under the command of Col. Ray J. Stecker. He succeeds Col. Louis Cole who has received another Ninth Air Force assignment.

Coast Plants Face Termination Puzzle

Manufacturers, with non balloon aircraft and investments on books, are confronted simultaneously with warnings of long war and of imminent mass cancellation.

West Coast airplane builders, with more than ten billion dollars on their books in orders and plant investments, face the dilemma of prolonged war production while being pressed by the Army to prepare for termination for mass裁減 cancellation.

Air Force Forces Materiel Command chief who brought their letter-telling "termination school" to Los Angeles and San Francisco last week found a chaotic variety of interpretation and lack of understanding of termination procedures. They warned of the inevitability of a day of total termination, and cautioned prime and sub-contractors alike to set up termination departments that will be prepared to expedite with a minimum of delay and confusion terminations as they are ordered.

Warning—Warning to manufacturers was that they dispose of surplus materials immediately "to speed the coming revolution" as reuse of planes misappropriated by foreign governments.

Completion of West Coast termination procedures will be hastened by the existence of approximately 1,200 individual prime contracts in western plants and the participation of an estimated 50,000 subcontractors, Brig. Gen. F. M. Hopkins, chief of the Resource Division, AAF, Washington, is confident, however, that critical aspects of West Coast cancellations will be softened by the creation of proposed termination departments throughout the industry and their close watch upon termination procedure policies stemming from Washington.

Mosquitos Factor—He told *Aviation News* that the AAF and manufacturers "would like hell to set up war production machinery, and now we've got to work just a hard unwinding H." Concerned over the reduction of 400,000 West Coast aircraft workers to termination talk and Washington announcements of the green light being given for the production of many commercial products was evidenced throughout "school" sessions by Brig. Gen. Donald F. Steele, AAF district procurement supervisor in Los Angeles. He re-

AVIATION CALENDAR

- July 16—Industry Trade Conference of America, National Manufacturing Association, Washington, D. C.—Officially Adopt, Then Dismissed National Aerospace Association, Washington.
- July 20—Oscillating Inertial Gyro Meeting, Aeromarine Testing Station, Dallas, Tex.
- July 21—Meetings of the Aerospace Industries Association, the University of Southern California, Los Angeles.
- Aug. 1—Dissolved—National Economic Meeting, National Aerospace Association, Akron, Ohio.
- Aug. 2—Joint—National Defense Engineering Meeting, General Electric Co., Schenectady, N. Y.
- Aug. 4—Airplane Division, Association of State Aviation Officials, Annual Meeting, Wichita, Kan.
- Aug. 5—Planes—National Society of Aviation Photographers, Oklahoma City.
- Aug. 6—AAE National Air Corps Meeting, Chicago.
- Aug. 12—Annual Meeting, American Society of Naval Engineers, Jefferson Hotel, St. Louis, Mo.

iterated the warning that western war production manpower must be maintained to supply the Pacific war, the end of which is not yet in sight.—S. B.

Jet Sailplane

Out of the German's dangerous anti-propelled robot bombs may come one of the most popular of postwar aviation sports craft, the jet-powered sailplane.

An unknown engineer of the Curtiss Aircraft Administration expressed the belief that single-place sailplanes after the war can be equipped with single, light-weight, inexpensive jet engines in the tail, without affecting the aerodynamic efficiency of the plane as necessary in this type craft.

The sports pilot would use the engine only a matter of minutes to get his sailplane off the ground and into sky areas often used by gliders, thermal, or soaring aircraft, which keep the ship soaring.

If the few gallons of fuel have not been expended in the takeoff and initial climb, the pilot can use his single reaction engine for short "spurts" along the sky seeking better air currents. He could easily land in a landing at any time he desires without need of the capsule.

Moreover, sailplanes have had to be towed into the air by a motor car, wind, or other device, making at least one other person on the ground necessary to launch a plane.

Industry Blueprint

By ROBERT H. WOOD

Stressing that all the planning underway by the War Department to maintain a stronger post-war aircraft industry will be useless unless Congress approves sufficient funds, Robert P. Peterson, Under-Secretary of War, in a statement of major importance to aviation, told a Senate group last week that only through prompt legislation can the nation be assured of maintaining world leadership in aviation.

Peterson's statement, before the War Contracts Subcommittee of Senate Military Affairs Committee, was wholly concerned with aircraft. It said:

"The aircraft industry must be set up on a large scale as possible, with reserve capacity and a plan for quick emergency expansion."

"Surplus plants must be disposed of so as not to hurt the industry's market." **Greater encouragement** should be given to commercial and civil aviation.

"Funds must be sufficient to keep the industry well beyond its pre-war size and maintain a corresponding output of planes developed and sold through normal competitive methods."

"The AAF should retain at least 10 percent of the aircraft manufacturing plants at Willow Run, Marietta, Oregon, Fort Worth, Dallas, Tulsa, Oklahoma City, and Wichita."

FEDERAL DIGEST

DPC Sells Surplus Plane Parts Plant

Binghamton unit of Kollman Instrument Division disposed of for \$175,000, memory of week's activities in U. S. and was agency.

By MARY PAULINE PERRY

Defense Plant Corp. has sold surplus real estate consisting of 334 acres of land located in Binghamton, N. Y., together with improvements comprising six buildings, to Arco Division, General Aniline and Film Corp., for \$175,000. June H. Jones, Secretary of Commerce announced.

The property, owned by GIPC

since July, 1942, has been operated by Kollman Instrument Division of Square D Co., to manufacture aircraft instruments for the War Department. Bidding for the property ended July 10 and buildings were sold. All machinery and equipment will be disposed of separately.

War Surplus—According to Mr. Jones the property was recently declared surplus to the war effort. The purchaser was one of several bidders and the price represents a day replacement cost of the property, less depreciation.

DPC's contract with Consolidated Valence Aircraft Corp. has been increased to provide additional equipment at a plant in San Diego to cost approximately \$35,000, resulting in an overall commitment of about \$23,000,000.

The contract with General Mo-

tors Corp. has been increased by approximately \$10,000,000 to produce aircraft instruments for the War Department. The contract with General Motors over-all commitment is now approximately \$20,000,000.

Military Construction—Military construction, including camp and air raid protection, will be discontinued according to officials, War Production Board and Private construction throughout the U. S. is considered a slow process to begin in September and to continue through the autumn, the Board estimated.

WPD released totals of \$44,000,000 in contracts for construction work, compared with \$65,000,000 in June.

Auto Conversion—The Automotive Industry Advisory Committee met Friday to discuss problems of changing over to peacetime production. The committee recommended that production when the time comes, the securing of machine tools, sheet metal and government-owned raw

the plant, providing of new tools, dies and other equipment for the manufacture of aircraft, and set the massive forward planning of tentative requirements for materials and equipment.

U.S. Army Engineers have approved a \$100,000 facilities expansion program for Consolidated Vultee's Ford Worth Division. This addition to a recently announced \$100,000 expansion program already under way.

Willow Run May Turn Out Tractors

Ford officials deny plans will be taken over by government for use of warehouse.

Ford's huge Willow Run plant, which probably has had more publicity of both kinds than any similar plant in the country, probably will be taken over by the Ford Motor Co., whose officials made sharp and prompt retort to unconfirmed reports that the sprawling establishment might be utilized by the government for warehouse purposes during the recession period.

Ford officials indicated that the company might use the plant, or part of it, for manufacture of aircraft, most likely cargo planes. The plant is so large, however, that there would be ample space for the production of tractors or other farm equipment.

Farm Equipment—It appeared

that farm equipment was a much more probable product from Willow Run after the war than aircraft, though aircraft was not entirely eliminated in the opinion of some Ford officials.

The Ferguson tractor was a familiar sight in many American farms before the war and there are indications that Harry Ford would like to put his tractor in the same category as his automobile—a low-priced vehicle which almost anybody could own.

First Choice on Plant—Ford officials vigorously defended their interpretation of the contract with the government, stating that "if we understood our contract with the government correctly, we have first opportunity on purchasing Willow Run after the war. Our plans as they can be made during these changing times, do not call for making Willow Run into a huge warehouse or storage facility as recent Washington reports indicated. The government built the plant and Ford operates it. Willow Run was constructed under the most specialized of plans—it is our plan to manufacture and not to produce Willow Run."

A barn like the plant might be used for purposes other than aircraft production was seen as a final phase of the statement that "The needs of the post-war world, and the growing realization that almost everything we need in manufac-

turing or food lines can be grown on the farm, places increased emphasis on tractors."

Saipan Air Umbrella Cited by Forrestal

Secretary Forrestal, in reviewing the significance of Saipan, noted that the role of the Naval air arm as involved in the Saipan operation demonstrated for the first time the utility of carrier-based aircraft to "infiltrate and bypass an area over a broad horizon for a limited period of time."

For a month, carrier based aircraft exercised air control over the Mariana Islands. Our carriers held up this air umbrella at a distance of more than 1,300 miles from their bases in the Marshalls and 3,250 miles from their major base at Pearl Harbor.

Nullified Jap Raid—The umbrella was completely shattered enemy air activity at 13 air bases in the Marianas and Bonins that, although the Japs sent bombing attacks daily against Saipan. All of them were too weak to be of any military significance.

The Navy Secretary said this achievement was without precedent in naval warfare and that never before have carrier based planes pursued a continuous, unbroken cover over an invasion force so long a time.



SKYMASTER PRODUCTION:

The extent to which the Douglas C-54 Skymaster is being turned out at the Chicago plant is indicated by this view of the assembly line where the wings are

attached to the fuselage. This plant was 15 percent above its production schedule last month, according to the company's report.

Importance of Small Operator Stressed by Port Executives

Comprehensive program for development of private flying, local airport construction and beautification, standardization of practices and legislation formulated at Chicago convention.

By ALEXANDER MCUREY

Importance of the small airport and the fixed base operator in the aviation picture gained increased recognition at the American Association of Airport Executives convention last week at Chicago.

Four sessions drew 330 delegates and gave opportunity for vigorous expression by such specialists as Oliver Parks of Parke Air College, West St. Louis; W. T. Parker, president of Parker Aircraft Corp., Lockhaven, Pa.; and the convenience banquet speaker, Col. Bruce Turner, Indianapolis fixed base operator and president of National Aviation Trades Association.

Recreational Areas—In closed session, small airport men drafted a recommendation for a separate division for private flying operators within the association and called for an association process to plan recreation facilities and beautification of small airports, investigations of possibility of Federal aid for private airport development, standardization of accounting procedures, and exchange of monthly operating statements through the association, exchange of curricula between flying schools, and investigation of retail-air service for

private airports. The recommendations were not acted on by the convention, but turned over to the board of directors.

Free Studies—Probably the most significant single accomplishment of the convention, as far as larger airports and airlines are concerned, was establishment of a committee to study schedules of fees for airlines headed by Howard Crush, Cincinnati, Lunken Airport manager. Study was undertaken, responding to repeated demands from the field, for a formula on which airports could set up a standard fee basis for airline flights, taking into consideration service and facilities at airport, weight of plane, frequency of service, and other criteria.

Recommendations of the closing session called for:

CAA operation of all control towers governing interstate traffic. Rental payments from Federal agencies using airport space, equal to payments from other tenants for similar space.

Transferring authority for authorizing aviation gasoline from OPWA to CAA.

Study by CAA to standardize airport terminology.

Authorization for CAA to pool surplus military equipment usable by airports for disposal.

Appointment by the board of directors of an executive director of the association and establishment of several classes of membership.

Furtherance of university education programs training airport managers.

Revision of CAA specifications on airport lighting equipment, to lower cost without increasing maintenance, and providing when possible for conserving use of existing equipment.

Recognizing the leadership of Senator Pat McCarran and Representatives Jennings Randolph, in national aviation legislation, the association named both men honorary life members.

Legislation—Requests for association endorsement of the Randolph-sponsored HR 384, which would provide joint Federal-State aid for airport development, were referred to the board of directors for future action.

Maj. Charles E. Hand, president, formerly Dallas, Tex., airport manager now with the ATC at Kansas City, and George Moore, secretary-treasurer, Aurora, Ill., were elected officers.

Other officers named were Woodruff Delkita, Los Angeles airport manager, first vice-president; Neil Brundage-Lensing (Miss) J. Airport manager, second vice-president; Crush, third vice-president; Clyde Trager, general legal counsel, and the following directors: Francis Geng,



PROBABLE ROCKET PLANE LAUNCHING SITE:

Photo on left, looking northeast, shows construction of what is believed to be a launching platform for Hitler's rocket planes used against England. Photo on right, taken from the air, shows a probable launching site found by the Allies a mile southwest of Cherbourg.



St Paul, Fred Alley, Charlottes, W Va; Paul Koenig, Houston, Tex; Melvin Eam, Reading, Pa; and Louis Gross, Toledo, O.

Observations—Significant statements by convention speakers W. T. Piper, there's not much talk about Federal aid. After the war the government won't have enough money to pay the Congressmen. Let alone finance airports. We had better pay our own way.

Robert Albrich, St Paul We need studies on barges for private fliers and facilities to beautify the airport.

Robert Turner Aviation control should be cooperative between state and Federal governments. There's no reason why we can't have cooperation if we sit in with both groups.

Charles Densilid, CAA Longer runways built by the CAA is mandatory. They should be 5,000 pounds gross loading, but some airlines will take only 30,000 pounds. On most airports we believe 14,000 pounds will do the job for some time to come, but some big airports far from Atlantic flight will take heavier loads. As planes get bigger the designer will have to spread the load. About 100,000 pounds may be the top load.

Hart Bowman, Dallas We ought to change the name "air terminal." That means "the end of the line" and only a few of our airports are at the end of a line. We have to be thinking about feeder airlines in planning landing fee rates, so that the community will be equitable for them too.

DeWayne Steele, Burbank We have to be thinking about servicing big planes with gas. Recently it took me nine trucks to service a Constellation. It calls for a big tank with pipelines and portable units or pits.

De John Frederiksen, University of Texas I am appalled that you don't already have a formula for airline fees. We want to set up university training in airport management, and we look to you for help.

Oliver Park, East St. Louis Eighty-five per cent of mechanized aircraft flying in the private planes have been eliminated. An average part can multiply 10 times, from 22,000 to 220,000 persons employed and from 300 to 3,000 planes but that is small compared to the potential of private flying if utility is provided. We can develop the aviation industry to a size one



NEW TEST PILOT INSIGNE:

Pins of the *AAP* Menasco Convair test section, fighter branch, are being issued a new insignia, authorized above as the nose of a North American P-51 Mustang by Capt. Darrell L Sims. The insignia depicts a rooster, symbolizing a "cocky" pilot with a cigar at a jaunty angle, riding the cockpit of a sleek fighter plane.

head of the automobile industry in 1941.

Stephen Steers, Michigan Director of Aerovators Realizing the fallacy of attempting to expand airport facilities beyond reasonable limits, we maintain that the day is here when the manufacturer must build into his airplane characteristics that will fit the average airport. Too often we become concerned about the big airports which handle four or five thousand a day and overlook the 900 to 1,000 traffic movements by small fry.

Electronic Autopilot For Planes Revealed

Device, built around two gyroscopes, is said to be capable of 360° flight correction in a minute.

Details of an electronic autopilot—wasteful improvement of the automatic pilot—have been disclosed, although our four-engine bombers have used them as standard equipment for some time.

The autopilot is an electronic device built around two gyroscopes and it is capable of making more than 300° pitch corrections a minute. The gyroscopes are fixed to the plane with the spinning rotors free to move in any direction.

The movement of the airplane around the rotors is picked up by electronics and translated into control of the operation of the rudder, elevators and ailerons with the aid of electric motors strategically located in the aircraft.

Makes Flying Easy—Minneapolis-Honeywell, in cooperation with the *AAP* Materiel Command, developed the autopilot and W. J. McGarrah, vice-president in charge of research and development for the company, said he sees the possibility that the device would make it possible for anyone who can drive an automobile to pilot an airplane.

Development thus far made it easy for persons with no flight experience to handle a plane in the air and experiments being conducted by Minneapolis-Honeywell and other companies indicate progress toward its use in take-offs and landings.

Arms Order to Budd

A large heavy-ammunition contract has been received by Edward G. Budd Manufacturing Co., whose order for Convair's all-metal cargo airplanes recently was canceled.

General Burgess, chief of the Philadelphia Ordnance District, estimated that at peak production the military short contract would employ 3,000 to 3,500 persons

Manufacturers Council Gets Major Role in ACCA Revitalization

Group, with Personal Aircraft body, emerges as main operating unit of Chamber, Harry Woodhead, chairman of Western Executive Committee of Manufacturers Council reveals.

The pattern of the new *Aero-national* Chamber set-up has emerged along preliminary lines reported in *AVIATION NEWS* June 19 with the completion of the first phase of the organization. The first major task given to the new chamber is to reorganize the former departments of economic development, research and standards, legislation and information. These bureaus serve the Aircraft Manufacturers Council and the Personal Aircraft Council, as well as the membership of the Chamber not identified with either council.

The reorganization program was approved after John C. Lee, acting general manager of the Chamber, submitted his progress report to the program group he took over from the East and West regional meetings.

New *Spirofire*

Spirofire is now permitted of a new *Spirofire*, the PR Mark XI, as all-metal, single-seat, low wing monoplane used for photographic reconnaissance duties, with cameras fitted in the fuselage.

PR Mark I, 650 Hp. Engine—As reported by the British Information Service, the plane is powered by a



NATS CARGO TO CANAL BREAKS RECORD:

Douglas Skymaster cargo planes of the Naval Air Transport Service, flying, according to the Navy, the two heaviest single items ever carried by air in the Panama Canal Zone recently—turbine engine rotors and repair damage rods on a tanker carrying fuel oil to the forces Task Force 78. One weighed 8,849 pounds. Photo shows a replacement, weighing more than 20,000 pounds, being secured in the hold of the airplane.

Hells-Bipes Merlin 61, 83 or 83A engine of more than 1,535 hp, and has rotor four-blade counter-speed propeller. Later Mark XI Spitfires have a hydraulically operated retractable tail wheel unit.

There are two main fuel tanks in the fuselage and long-range tanks are fitted. The Mark XII dimensions are span 34 feet, 33 inches, length 31 feet, one-half inch, height 10 feet and top, one blade vertical, 11 feet eight inches.

Packard Builds Test Division at Toledo

New unit is designed for development of high altitude engines.

Establishment of a separate Toledo division to handle advanced aircraft engine development is disclosed by Packard Motor Co. officials, who stress the fact that the new establishment is designed to aid in giving the United States an edge in improved power-plants for high altitude aircraft.

George T. Christopher, Packard head, and the division was being established to meet the specific requirements of theAAF Aircraft Control, and that the company expected the new program would yield power-plants which will be beyond present-day limits.

Makes Liquid-Cooled Engines—Packard manufactures liquid-cooled engines for which the Army has always shown some leaning, only one of the AAF high-altitude fighters, Republic's P-47 Thunderbolt being powered by an air-cooled engine, although the B-36, B-17 and H-20 are all powered by air-cooled engines.

Packard has received an additional \$1,000,000 from the Defense Plant Corp. to expand its plant total to \$17,500,000 for the project. Equipment will include propeller test stands, dynamometer cells and other special machinery and speeded to simulate high altitude conditions.

Major Test Center—Company officials say the Toledo division will be one of the few fully equipped engine test centers in the country. It will be under supervision of C. R. Puten, former chief engineer for Packard.

Production of Rolls-Royce engine parts at the Toledo plant will not be affected by the program, which calls for manufacturing and assembly, test-down and re-assembly work.

WEST COAST REPORT

200-Ton Flying Boat May Fly by Jan. 1

Hughes Howard Hughes' cash rapidly taking shape, expected to be used by year-end.

By SCHOLER BANGS

Hull, wing and tail of Howard Hughes' 400,000-pound eight-engine flying boat rapidly are assuming shape. It may be flying by Jan. 1. Final assembly of major components by late fall seems assured.

Assurance of year-end test flights will be predicated on progress of the war and the ability of Aircraft Resources Control to release the project engines and accessories currently amenable only to high-priority wartime production.

338-Foot Spread—Enlarged budgeted specifications for the original design, the big boat will have a 338-foot hull and a 330-foot wing carrying radial engines of a horse-power rating still under military restriction.

Arrangements already have been made with public utility companies for temporary removal of power lines for trucking hull and wings from the Hughes factory at Culver City to Los Angeles Harbor, where test flights will be conducted.

Contract Revised—Revisions of the Hughes contract to specify production of a single flying boat (This original contract with Defense Plant Corp. called for construction of three boats at a cost of \$11,000,000) will call for a radical departure from traditional engineering procedures in the development of a prototype aircraft of massive proportions.

Under the original contract, specifications called for detailed static load testing of the first boat and finally acceptance of destruction loads.

The design now approaching final assembly will be test flown without extensive static testing. However, the world's biggest flying boat, and largest aircraft employing wood and plastic construction throughout, will be launched with the builder in possession of valiantly unbroken record of overall strength gained from thorough progress testing of all materials prior to the first assembly.

POST-WAR FIGHTERS—Look for a limited post-war modification

of outstanding tributes as personal airplanes for civilian pilots—who have by bank accounts. They will be in the \$50,000 to \$300,000 price range. Warplanes potentially attractive to such owners are Northrop's Black Widows and Lockheed's P-38.

Engineers toying with the idea also have spent considerable time in considering the possibility of stripped-of-heavy equipment and modified luxuriously for pilot and passenger, and with ample luggage room in the nose now crowded with guns.

Luxury plane enthusiasts believe, however, that such modifications will be only stop-gaps, that wealthy owners will have their eyes turned to the day when they can buy faster jet-propulsion aircraft.

Wind Tunnel—Boeing Aircraft's E. T. Allen Memorial high-speed wind tunnel in Seattle has satisfied its designation with a showing of 700 miles per hour at 13,000 feet of maximum 10,000 mph.

Whether the tunnel will retain its hold on the claim of being the fastest large tunnel in the world is not known soon, however, following completion of California Institute of Technology's new wind tunnel, recently financed by Southern California aircraft factories.

While they admittedly are high-performance antecedents of the Caltech project, have never been made public.

Outside Groups to Attend NAA Talks

Associations and civic groups that aviation have not participated in previous discussions will attend the National Association of Aviation's Joint Airport Users Conference at the Statler Hotel in Washington July 34 and 35.

Groups Associated—Lowell Swenson, NAA manager, and last week that 72 national organizations invited to participate, more than 30 already had accepted. Invitations were issued to many organizations that may enter the airport picture after the war, as well as those already interested.

Among those who will have representatives are government agencies, national organizations of mayors, local officials and other college organizations; construction groups, including road builders organizations, highway users and planning officials as well as aviation specialists in various fields.

AVIATION NEWS • July 17, 1944

B-29 Guns Fired By Remote Control

Sixman is used to make Superfortress the best protected plane in the world.

A revolutionary gunfire control system is the secret of the greatest firepower of the B-29 Superfortress, disclosure of which was permitted by the War Department with the announcement of the second B-29 attack on the Japanese homeland.

Armament consists of power turrets with multiple gun installations and with guns supplied and fired by remote control. The system includes computing gun sights which automatically correct for various factors such as wind and plane velocity while putting sight directly on the target.

Granted Firepower—Because of its supercharged cabin and because it can shoot more lead concentrated more accurately at a more distant target than any aircraft plane yet built, the claim was made that the B-29 is virtually invulnerable from attack by enemy planes.

The system was designed by General Electric engineers, requires some 30,000 processes in virtually every GE plant to manufacture and constitutes the largest separateness contract in the company history. GE also contributed to the turbo-supercharger developments which take the place and crew to new altitudes.

Operation Antisub—Under this arrangement, the sight and the gun are separated and the gunners are able to direct gun turrets from comfortable fighting positions. Details of the system were shown in a selected group of war correspondents at Boeing's Wichita plant last May.

Because of the separation of the sight and gun, a wide choice of load-cells for both guns and gunners is possible, and this arrangement gives a wider area of fire and makes possible an addition a heavy concentration of firepower on any selected target. Variability for the gunners for the areas assigned to them is vastly increased by the remote control system.

Previous Cabinet—The remote fire control and the pressurized cabins of the B-29 were developed. The heated cabins, separated against a pressure of about 3,000 feet altitude, maintains that pressure even though the Superfortress may be greatly in excess of that altitude.

Location of the gun turrets outside the cabin simplifies to a great extent the pressurization problem.

During a flight in the B-29, writers were permitted to station themselves at the gunner's positions, seated comfortably at the side of a large semi-spherical blisters which provide at least 180 degrees of visibility through open hatches in waist gunner's had to do in early bomber models, the gunner on the B-29 works only a light, easily-handled, self-competing sight which controls the guns in the remote targets.

Locations of the multiple 50-caliber machine gun turrets or the 30 mm. turrets have not been disclosed. —C S H

Bellanca Holds 25% Of Voting Stock

G. M. Bellanca, chairman of the board of Bellanca Aircraft Corp. New Castle, Del., is listed as controlling 25.1 percent of the company's voting stock through an option of 50,000 common as of Dec. 31, 1943, according to the company's report for 1943, filed with the Securities and Exchange Commission.

John H. Jewett, president of Bellanca Aircraft Corp., was paid \$11,882 in salary for 1943, the report disclosed.

Midwest Gets 51.41%—C. M. Bellanca, vice-president and general manager, got \$19,813 during the year, plus \$8,000 to G. M. Bellanca, Arctic, treasurer and assistant to the president, was paid \$11,025.

Compensation paid Jewett and Arndt was for the period from March 23, 1943, when they were elected to their present positions. Jewett's salary is \$12,000, plus 1 percent of the company's net earnings after taxes, and Mr. Arndt's salary is also \$12,000.

Sales—Gross sales totaled \$5,322,482. Costs were \$3,310,985, leaving profit of \$1,011,433. Distributions of \$184,759 for selling and administrative expenses reduced this figure to \$1,827,678.

Owing effect to \$184,759 representing other income from various sources, gross income of the company was \$187,731. Interest of \$125 on notes payable brought net income to \$187,606. Payment of income taxes to \$972,586.

After making provision for Federal income tax and excess profits taxes of \$730,000, net income for 1943 was \$242,586.

Northeast Airlines Operates at Loss

Northeast Airlines, Inc., paid its president, Sernad J. Solomon, \$13,316 salary for 1943, the company's report to the SEC shows. Marion H. Anderson, vice-president, was paid \$11,300 for the same period, and Robert S. Swan, treasurer and director, got \$12,303.

The eleven directors received \$20,000, and \$6,000 was paid to the law firm of Elly, Rosenthal, Thompson & Brown, Inc., attorneys for the company, for \$6,000. Expenses totaled \$1,544,838, showing an operating loss of \$64,638. After other deductions such as extension and development costs, interest expense, loss on Canadian exchange and on disposal of capital assets, total loss for 1943 was \$127,881.

There was a claim of \$38,000 for refund of 1943 Federal income taxes based on the carry-back of 1943 loss, which brought net loss for 1943 to \$98,944. Earned surplus at the beginning of the year was \$43,365, which left a deficit in earned surplus at the end of the year of \$52,332. Capital surplus at Dec. 31, 1943, was \$1,985,343.

30 Million V Loan For Minn.-Honeywell

Minneapolis—Honeywell Regulator Co. has negotiated a new \$30,000,000 Regulation V loan to finance the company's expanded production program. The new loan is in the "V" term loan and will take the place of the company's existing \$15,000,000 V loan with the new credit available at any time and from time to time until June 30, 1947, subject to earlier reduction or termination of the option of the company. Interest rates is 2% percent on the amount of money from time to time borrowed and there is a commitment compensation of one-fourth of one percent on the portion of the credit from time to time unused.

Syndicate—Banks participating are Northwestern National Bank, of Minneapolis; First National Bank of Minneapolis; The First National Bank of St. Paul, Minnesota; The First National Bank of Minneapolis, Iowa, and Trust Co., Chicago, and four smaller banks of Minneapolis. The loan carries a 90 percent guarantee by the War Department.

Ham and Eggs

THOUSANDS of deadly "eggs" have been laid at Adolph Hitler's doorstep by the American Air Forces—"eggs" that made possible our invasion of Europe. And now these "eggs" are falling again on Japan. In this advertisement we pay tribute to the Air Forces' personnel who operate the communication equipment of these aerial bombings—to the radio operators, many of them pre-war "hams."

Without radio—without these gallant flying "hams"—the daring coordination of thousands of planes would be impossible. These men are risking their lives daily so that American formations may communicate with each other, with the ground forces, and with their home bases.

We at Titeflex like to think that we are playing our part in making radio communication possible in aircraft. For high frequency signals from the aviation world completely

blot out radio communication if the ignition system of aircraft engines were not efficiently shielded. We are proud that the Titeflex RADIO SHIELDED IGNITION HARNESS has met and passed the most severe test for electrical and mechanical durability—that of service on America's war planes.

But in the aviation business, today's best is not good enough for tomorrow. That is why the Titeflex research staff is testing, refining, refining to improve Titeflex products. To meet the need for shielding and flexible tubing of even wider usefulness in power stations is the goal of Titeflex engineers. If you have any problems which these engineers may help you solve, you are invited to consult them now.

TITEFLEX, INC.
501 Frothingham Avenue,
Newark 6, New Jersey



CRUTCH FOR CRACKED-UP PLANES!

Please that make unceremonious belly landings in England are given a "crutch" to get them off runways and on the way back to the air. This British-made enterprise trust device makes handling of wrecked planes simple and speeds clearing of runways in busy fields.



Boden (479 tons), results, from fair to excellent.

Sixty of the bomber formations met the most aggressive enemy fighter attacks encountered in weeks, indicating the High Command's estimate of the importance of the targets.

A return engagement was played on May 28 when four of the above plants (including 493 tons at Zeitz alone) and two additional synthetic oil factories, Ruhland and Magdeburg, were attacked by more than 800 U.S. heavy bombers, with more than 400 determined "bombs" in the Magdeburg area.

These two consecutive attacks evidently took care of the synthetic production capacity for the time being. The next such blow began on June 20 when Russian-based bombers of the Eastern Command (1388TAF) struck the synthetic oil plant at Dushkoye, deep in southeastern Poland.

Climax in June—June 6 saw another smashing attack on Ploesti of refineries (446 tons), while the 10th brought a brilliant and dan-

added to the destruction. The 8th struck the Muskrug refinery near Hanover on the 14th and 18th, besides one at Emscher in northwestern Germany. The RAF dropped nearly 1,000 tons of bombs on the great synthetic oil plant at Gelsenkirchen in the Ruhr on the night of the 11/12, and nearly 1,400 tons on the big refinery near Duisburg on the 11/12.

»Shuttle Bases Pay Dividends
On many of these attacks fairly heavy opposition was met, another indication of the necessity for the Luftwaffe to spread over, thinner its waging fighter defense to take care of these widely scattered targets, now so readily accessible as a result of the 3-way shuttle bombing raids—Italy-Russia, Russia-Holland, England-Russia, and other combinations.

During the last week of June and first week of July, bombardiers from all these bases had another whir at the crippled systems of refineries and synthetic oil plants.

Heavy attacks were made on Ploesti three times within ten days, other refineries at Bucharest, Tisza, and Warsaw were struck, and (as we have seen) a synthetic plant in Poland was bombed from Russian bases. Besides that numerous oil derricks were set ablaze.

This is what air power has been able to accomplish against a highly strategic industry, and it will not be at all surprising if the Nazi war machine finds itself running out of gas within the next two or three months.

NARRATOR



NEW SAFETY DEVICE:

Photo illustrates a simple device for separating AAA safety harness, lap and shoulder belts, which was designed to meet the request of flyers for a harness that operates with a minimum of effort.



LEADING THE WAY TO VICTORY IN THE AIR—

FLYING HORSEPOWER

TODAY, FLYING HORSEPOWER
IS 100% WAR POWER!

But think what this kind of
performance will mean in Peace!

ALREADY many brave
men are flying, using new
superfuel "boostered" by
"Flying Horsepower," an
airplane soaring perfor-
mances exceeds those of
any other 100-octane gaso-
line. Here are several com-
parisons:

GILDED: The plane can climb
over 1,000 feet per second,
compared with 1,400 feet per
second with 100-octane gaso-

SEASIDE: The plane can climb
to 34,000 feet, compared to
a ceiling of 28,000 with 100-
octane gasoline.

GOING: The plane can carry
a payload of over 4,000
pounds. This compares with
only 7,000 pounds with 100-
octane gasoline.

TAKEDOWN: This transport can
turn the ground in less than
1,000 feet, compared to 2,000
feet with 100-octane gaso-
line in the flat land.

...FUEL OF THE FUTURE

A SENSATIONAL new superfuel, "Flying Horsepower," is providing new power ingredients for America's 100-octane aviation gasolines...boosting the performance of U.S. planes.

This greatest gasoline news of the war is the result of development after development by Socony-Vacuum in Catalytic Cracking. It's the product of 11 years pioneering work...a \$30,000,000 investment in new refining equipment and facilities...the greatest Catalytic Cracking program in the world.

No "dream," no fantastic promise, "Flying Horsepower" is a war-proven reality. Today, Socony-Vacuum is producing enough of this new superfuel every day to provide 100-octane gasoline for 1,200 4-engine bombers flying from England to Germany and return.

After Victory, this "fuel of the future" will power the mightiest air fleets the world has ever known—

FOR TOMORROW'S PEACETIME PLANES!

America's commercial planes. For Socony-Vacuum refineries are ready—the day after all military needs have been met—to start producing for the peacetime requirements of the aviation industry.

Watch for announcements of "Flying Horsepower" in new Mobilgas for aircraft!

NEW SUPER AVIATION OIL HELPS KEEP ENGINES CLEAN!

During the 17 years Socony-Vacuum exports a ton, Socony-Vacuum has developed a new super Mobilgas for aircraft engines. It can serve as a running-man for the new Mobilgas 100-octane. Right now it has demonstrated its low-losses, this new oil has proved its incomparable wear-reducing qualities. The outstanding feature is its resistance to clinging deposits.

SOCONY-VACUUM OIL COMPANY, INC.
61 Broadway, N.Y.C., and Atlanta, Chicago,
Cincinnati, Cleveland, Dallas, Denver, Los Angeles,
New York, Philadelphia, St. Louis, San Francisco, Seattle.



Get the facts on **Mobilgas** • **Mobiloil Aero**

Vibrashock

what does it mean?



For years engineers have specified "shock mounts". These were designed to protect valuable equipment against the shocks of take-off and landing. Conditions have changed, and suspensions which will adequately absorb shock plus vibration, are necessary.

Long sustained flight, blistering speed, continuous vibration from high-powered engines, plus new complex instruments have raised a problem. To meet this problem Robinson engineers have perfected VIBRA-SHOCK Suspension. This new suspension consistently absorbs better than 90% of the engine and propeller vibration in addition to cushioning shock more than ever before.

Here is one of the many types of Robinson VIBRA-SHOCK Suspensions. Today the wide use of this new suspension on our military aircraft protects aerial cameras, radio equipment, delicate flight instruments, and many electronic devices, against shock and vibration—this is VIBRASHOCK!



ROBINSON AVIATION INC.
730 FIFTH AVENUE • NEW YORK 19, N.Y.



Converted DC-3's, above, with rear doors had to be loaded the hard way. Not built for cargo use, they were pressed into service out of desperation in the early days of the ATC. Left: Trucks and a Convair C-85 Comando, right, used for cargo-carrying, have simplified the task and skyrocketed the volume of mail.



Life in the ATC was often rugged. A soldier on Ascension Island boils out some clothes in a redneck-style stove in a makeshift post.

Air Transport Command: *World-Girdler*



No painted administration building greets pilots in Brazil. A bare Muniz is the briefing room for ATC crews flying the once-wide Atlantic.

The work won't stop as fast as it would be in the United States. Native workers mix concrete like old salts at an ATC base in Brazil.

REYNOLDS

...can supply vitally
needed parts **NOW**



FORWARD-LOOKING MANUFACTURERS recognize their need of thoroughly dependable sources of supply in the midst of today's uncertainties and changing conditions. Reynolds is just such a supplier, where aluminum parts are concerned . . . whether the order calls for the speedy delivery of a few hundred or a million.

These past few years have given Reynolds a post-graduate course in fast, economical parts manufacture. The lush of war "small" orders produced aluminum parts by the hundreds of thousands . . . parts of every conceivable size and shape—from small angle brackets and set-pins to complete wing and cabin segments. Reynolds pre-fabricated aluminum parts lowered the cost and speeded the manufacture of planes, tanks, ships and the thousand-and-one devices that go into these weapons.

Reynolds facilities are complete in every respect . . . from the basic mine to finished aluminum parts. Business of

modest one-million, carefully controlled tally shows annually exceed the capacity of all plants. There is no substitute in quality in aluminum Reynolds parts.

modern high-speed machines, manned by skilled operators, are now available to manufacturers with suitable allocations.

Parts can be fabricated to the most strict specifications, or when desirable, Reynolds engineers are ready to work with manufacturers to determine the best application of the new Reynolds-developed aluminum alloys to the specific job at hand. No part is too large or too small for the Reynolds production facilities.

Why not investigate what Reynolds can do for you now? Reynolds Metals Co., Aluminum and Parts Div., Louisville, Kentucky.

SALES OFFICES IN THE FOLLOWING CITIES: Akron, Ohio; Atlanta, Ga.; Birmingham, Ala.; Buffalo, N.Y.; Chicago, Ill.; Cincinnati, Ohio; Denver, Colo.; Detroit, Mich.; El Paso, Tex.; Fort Worth, Tex.; Kansas City, Mo.; Milwaukee, Wis.; Minneapolis, Minn.; New Orleans, La.; New York, N.Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; San Francisco, Calif.; Toledo, Ohio; Washington, D.C.; Wichita, Kans.

extruded bars, plates,
sheets, inspection plates,
cowlings and many kinds
of smaller parts are being
produced by Reynolds
by forge or small
quantities.



REYNOLDS

The Great New
Source of

ALUMINUM

INGOT • SHEET • EXTRUSIONS • WIRE • BAR • FORGINGS • TUBING • TOOL & FORMS

PERSONNEL

Jack Frost has been named assistant to Lowell M. Swanson, manager of the National Aerospace Association.



Jack Frost

Frost was formerly a public relations director for several large companies before joining NAA.

V. L. Feltz (photo), replaced A. C. Michaelis as superintendent of Goodrich's plant, where Navy Corvair fighters are produced. Feltz has been assistant superintendent of the plant and was formerly at the Aransas plant. Michaelis has been sent to the Goodyear plant in Springfield Park, Ariz., where he becomes plant manager. The Arizona plant has been producing parts for Consolidated B-24's and Venturas and is an important manufacturing center.

Capt. Arthur E. (Mike) LaPens, chief flight officer of Pan American Airways' trans-Atlantic operations, has been awarded a fifteen-year gold service bar. LaPens was the pilot of the first commercial airplane to cross the Atlantic from New York to London and Marakesh in 1939. He has served in the Navy at the flight training school at Pensacola.

E. Todd Crutchfield has been appointed personnel director of Chicago and Southern Air Lines succeeding Joseph J. Anne. A former GPA district advertising chief, Crutchfield has been general manager of Chicago and Southern's maintenance center since last Sept. 1. He has been associated with Eastern Air Lines, Century Freight Airlines and the Aeromarine Division of the government.

Southern Air Lines exceeding Sept. 3, Anne. A former GPA district advertising chief, Crutchfield has been general manager of Chicago and Southern's maintenance center since last Sept. 1. He has been associated with Eastern Air Lines, Century Freight Airlines and the Aeromarine Division of the government.

Howard E. Heflin, formerly with Carl Ryan and Associates, has been appointed associated director of public relations for Neib-Kalynov Corp.

John P. Leapham has been assigned assistant city traffic manager at Milwaukee for Pennsylvania-Central Airlines, succeeding Edna S. Fawcett who has resigned. Leapham has been a member of the Chicago sales staff of United Air Lines. He is a graduate of the Freight Traffic Institute of Loyola University.

H. W. Gough, vice-president of Belden Manufacturing Co., Chicago, has been appointed a vice-chairman of the newly formed Aircraft Electrical Council, made up of more than 50



AA OFFICIAL DIES

Mollie Thompson, 65, a vice-president of American Airlines, Inc., died July 6 in Cleveland. Thompson joined American in 1942 as regional vice-president. He was sent to Mexico later to be managing director and general manager of American Airlines de Mexico, ultimately becoming president in 1947. This year he returned to the United States to lead American's route development program. He was formerly city manager of Berkeley, Calif.

member companies of the National Electrical Manufacturers Association. Purpose of the Council is to make available to the aircraft industry and the combat aviation forces, the facilities of the electrical industry, including information on



AAF HONORS U. S. RUBBER CO. EXPERT

D. D. Dayton, of U. S. Rubber Co.'s tire division, was awarded the AAF new Civilian Merit Award, given to civilians for outstanding contributions to the war effort. Dayton was attached to Wright Field, AAF Material Command headquarters, as airplane tire specialist. Presenting the award are Capt. H. A. Glavin, chief of the rubber unit, Wright Field, and Ensign F. J. Motzack, Army representative.

E. Todd Crutchfield has been appointed personnel director of Chicago and

BREEZE SHIELDING CONDUIT

**BREEZE
MARK**

CLEARING all Wires!

Breeze Flexible Conduit Shields and Protects Communications and Wiring Systems

Any current-carrying wire in an aircraft electrical system is a potential source of interference with radio communications unless properly shielded. Breeze Flexible Shielding Conduit, produced in a wide range of diameters, can be used in conjunction with Breeze Conduit Fittings and Multiple Electrical Connectors to meet practically any shielding requirement.

The unique design of complete radio ignition shielding harnesses is a Breeze specialty, based on years of pioneering experience in the field. Breeze Flexible Shielding Conduit is in service today with fighting units of land, sea, and air, supplementing the many other well-known items of Breeze equipment that are helping the United Nations along the road to Victory.

Breeze **BREEZE**
CORPORATIONS, INC., NEW YORK, N.Y.

PRODUCTION FOR VICTORY • PRODUCTS FOR PEACE



U.S. Tests Plan to Absorb Loss on Company-Owned Surplus Stocks

Materials will be sold to the government for \$1 and adjustments made in reorganization and tax proceedings under program being tried out.

Agreement with government agencies on a plan whereby company-owned surplus materials will be sold to the government for \$1 and company losses absorbed in negotiations and tax proceedings was reported last week.

No formal agreement has been made, but a test proceeding in which the principle will be established is now under way. Its completion along lines already agreed on will clear the way for industry-wide operation of the plan.

40 Percent Tied Up—It is believed that 40 percent of all aircraft material surplus is tied up because it is company-owned and not government-owned, and that the proposed plan will remove over half of this \$4 billion.

Meanwhile, the first shipment of excess inventory materials under the warehouse plan has been made from the Republic Aviation Corp. plant at Farmington Hills, Long Island, and as additional flow of materials will start within a week at the Bell plant in Buffalo, and the Interstate factory in California.

Reactivation—The benefits of the segregation of excess materials other than preparation for shipment to warehouses were shown in the Republic plant when at the last minute before shipment was to have started two weeks ago, an upward revision in the T-41 production program meant that some of the excess would have to be used. Segregation of the materials enabled the plant to shift the needs of materials from the surplus stocks and delayed movement of the balance to warehouses for only one week.

Fifteen warehouses have completed contracts for the excess materials program of the 33 expected to participate in the plan, it was learned. Other contracts are in process and should be ready by the time a heavy volume is moving from the aircraft plants.

139 Plants Complete Job—One hundred twenty-nine aircraft plants of 459 eligible under the program have fully completed segregation and repairs on the excess materials, and are ready to move

surplus goods as soon as arrangements are completed. Completions in the system are being traced out through the virtually experimental transfers from Republic and Bell, and as soon as it is determined that the process is working out as projected, the movement of materials will be speeded up considerably. The volume of excess inventory is running as high as higher than anticipated—well more than \$100,000,000 for the country's aircraft plants.

Effects of individual plants now will be concentrated on materials other than those included in the warehousing plan. Going to the warehouses are aluminum, steel, copper and hardware of various classes, since these lend themselves more readily to warehousing and are relatively fast-moving items. Other goods will continue to be marketed through surplus disposal units of the individual companies.—W.G.K.



TECHNICAL ADVISER:

Gips Chesserath, technical adviser to the AAF Materiel Command's powerplant laboratory shop at Wright Field, has been developing engines for the AAF for 21 years, having started with the government at old McCook Field, Wright Field's predecessor. He was an important contributor to development of the geared supercharger, and was a joint recipient of the Moisy Memorial medal in 1938.

1944 Engine Output To Top 4 Billion

Dollar value estimate based on scheduled production of 277,671 aviation power plants for year.

Total dollar value of aircraft engines to be produced this year is estimated at \$4,264,201,900, based on a scheduled output of 277,671 engines for 1944, according to the Aeronautical Chamber of Commerce.

For the first five months of this year, 113,338 aircraft engines were produced with a total dollar value of \$1,425,359,000 and for the rest of the year 164,335 engines are scheduled with an estimated dollar value of \$2,839,442,000.

Production for the first six months and estimated for the last six months are reported by the Chamber, showing:

Month	Engines	Dollar Value
Jan.	22,655	\$32,142,000
Feb.	31,247	50,581,000
Mar.	32,084	54,650,000
Apr.	33,005	51,977,000
May	25,017	50,681,000
June	24,031	27,317,000
Estimated,		
July	22,603	38,600,000
Aug.	34,301	50,376,000
Sept.	32,568	57,796,000
Oct.	31,817	53,625,000
Nov.	31,864	50,120,000
Dec.	32,084	37,471,000

It was pointed out that the estimated schedules are subject to change with changing tactical requirements and that both numbers of engines and dollar volume would be revised accordingly.

4,000 Hp. Next

Engines of 4,000 hp. are indicated for the future with the building of eight new production test cells at the East Hartford plant of Pratt & Whitney Aircraft Division of United Aircraft Corp., capable of handling engines up to that size.

The new cells are being built for quantity production of already announced models of horsepower greater than the 3,000 hp. range now handled in the more than 60 production test cells at the P&W plant, but with the greater capacity should it be required. Forward planning led to the preparation for tests of units up to 4,000 hp., according to William P. Gerstel, P&W general manager. The new units are 18 feet in diameter in the test sections.

The new cells are being built for quantity production of already announced models of horsepower greater than the 3,000 hp. range now handled in the more than 60 production test cells at the P&W plant, but with the greater capacity should it be required. Forward planning led to the preparation for tests of units up to 4,000 hp., according to William P. Gerstel, P&W general manager. The new units are 18 feet in diameter in the test sections.

PRIVATE FLYING

Embry-Riddle Plans Expansion But School Remains Main Interest

Organization which started with single seaplane in 1939 and grew to eight divisions, announces intention to enter other fields, including plane sales and feeder line operations.

By BLAINE STUBBLEFIELD

Aviation training will remain the primary interest of Embry-Riddle School of Aviation, Miami, Fla., according to executive statement, although expansion into other fields is contemplated.

Part of the school, which started with a single seaplane on the Matheson Causeway at 1939 and grew into eight divisions, was to provide thorough aeromarine training in all phases from the ground, through the air, and the policy is being maintained.

Capacity Operations—Today, with restrictions lifted, both the seaplane base and Chaparral Field, the landplane base in Miami, are operating at capacity. Courses, coming from all over the United States to take advantage of Florida's climate and long flight hours, are getting their wings at Embry-Riddle along with WAVES, Navy cadets, Air Force officers—all studying on their own time. Flight instruction will continue as an important part of the school's operation in the post-war period.

Technician division, housed in an eight-story building containing 176,203 square feet, originally designed as a hotel, aims one of the finest planned set-ups in the country, officials say. All the ground courses, including aircraft and engine mechanics, drafting, radio, instruments and Link training, run for 10 months.

40 Month Course—Embry-Riddle is now developing a complete 40 month aeronautical engineering career course for instruction of returning war veterans and for civilians in peace time. The school expects to play a stellar role in the nationwide veterans' rehabilitation program, and today is arranging courses, instructional staffs and accommodations to take care of a large number

Getting Asks Easier Rules for Flyers

Tells Murray Subcommittee that marked uprise in private flying will follow reduction of strict regulation.

The right to fly, in many respects, has been taken from the personal flyer and a sane and sensible relaxation of regulations and restrictions is needed if private flying is to resume its rightful place, Joseph T. Geising, vice president of General Aircraft Corp. and spokesman for the Personnel Aircraft Council of the Aeronautical Chamber of Commerce, told the Murray War Contracts subcommittee of the Senate Military Affairs Committee last week.

"A new point must be taken by the committee," the administrative manager of our organization, "the public is to reap the benefits that personal flying makes possible," Mr. Geising told the Murray group.

Safe Relaxation of Rules—Geising predicted that personal aircraft would take an important place in the post-war picture of transportation as reduced and if landing and takeoff facilities are provided for

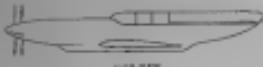


PRESSES EXTEND LIGHTS

Technicians at Civil Aeronautics Administration have developed this plastic extension rod to elevate runway search lights at northern airports where snow covers the standard, flat type of installation. A prism at the top of the rod directs a beam of light each way along the runway, reflecting it from the regular net bulb or the base.

FOR THE SPORTSMAN PILOT

The Makers of Faflir Aircraft
Ball Bearings Present You With
Four New Prototypes of Future
Flight Possibilities... Models
and Settings Created by Norman
Bel Geddes and Company.



L-100-5000

HIGH SPEED PRIVATE PASSENGER PLANE
FEATURES - DUAL ROTATION PROPELLERS -
POWERED BY LIQUID COOLED ENGINE -
LANDS ON THREE RETRACTABLE WHEELS -
ACCOMMODATES FOUR PASSENGERS & LUGGAGE



L-100-5000

Executive or sportsman may find his dream world of mobility in this comfortable, streamlined plane designed for 100 m.p.h. cruising speed. Separated by well-concealed twin propellers in its design, and will have an electronic "view" to indicate a clear line of flight. For the sportsman-pilot, it

Practiced by wartime achievement in aircraft, men will want to fly farther and faster in privateplane pursuits. To fulfill their desires, elegant designs for private and commercial airplanes are already taking shape.

Contributing substantially to past progress in aircraft

has been Faflir's concern in engineering friction out of aircraft controls and engines through the development and production of specialized ball bearings. Millions of Faflir Ball Bearings in America's great airplanes furnish convincing proof. Confirming its 35-year close association

with New York banks, a week-end tour to California and back... or a Trans-Continental with a round-trip to Alaska

the world over, aircraft engineers, Faflir will provide the ball bearings to free power and control from friction in aircraft of Tomorrow. If it's an engine — or any moving rotary part — there'll be a Faflir for it. The Faflir Bearing Company, New Britain, Conn.



FAFLIR
BALL BEARINGS
for Aircraft



FLY HIGH
FLY FAR



PCA STATIONS GET FIRST AID KITS:

The first 24-unit emergency kits specially designed for Pennsylvania-Central's ground stations are shown above being presented by Sam Miller, PCA safety director, to station employees. The kits were designed by Dr. L. G. Lederman (extreme left), and contain all the necessary items for administering first aid.

and the position taken by the Senate committee prompted him to seek comment.

P Estimates—Pogue, to whom Shuster forwarded the inquiry, argued that the airlines did not have "anywhere near the number of aircraft required to handle the viral war traffic offered." He said the Board estimated that additional craft required by December 1, 1942, amounted to 1,000 planes, while the Board needs 90 to carry essential priority traffic without substantial diminishment; 160 were estimated by the carriers as needed to carry war traffic adequately, and 368 was the Board's estimate on the additional number required to

transport normal traffic at normal utilization and load factors.

Garnett subsequently seconded these estimates. Writing the COT late in April, he commented that "more priority passengers are being displaced now than ever before," and said the trend seemed to continue as priorities were granted an increasing number of non-priority proportionate increases in requirements.

In his memorandum to the airline heads, accompanying COT's latest communications, Garnett declared that the quantity of planes currently being returned was "greatly influenced" by the CAB estimates, although planes are not yet being made available to the airlines as any estimate of equipment required for normal traffic transportation.

B-29's Modified by CAL's Denver Plant

Simultaneously with the announcement that B-29's had bombed Japan for the second time, the Army permitted Continental Air Lines to disclose that its Denver modification center had been working on the huge bombers for several months. Although previously known in the industry, this was the first public announcement that the Denver plant had shifted from Ferranti to Superfortresses in mid-February.

Worked 24-Hour Day—As the fast and only airline modification center to receive the B-29 assign-

ment, Continental's shops met the initial February quota by working a 24-hour, 7-day week for over a month. Production schedules have been set through September. The planes come from Boeing factories at Wichita, Kansas, and Seattle.

Personnel at the Denver plant has been jacked 25 percent to handle the work. During March, 75 Continental technicians were sent to army bases to make certain additional changes in the planes.

Two of the airline's pilots have been checked out to testify to Superfortress.

Hawaiian Airlines Asks Link to Orient

Application filed with CAB seeks to connect islands with Philadelphia, Japan and China.

Hawaiian Airlines, Ltd., moved last week to become an international as well as a trans-Pacific carrier in an application filed with the Civil Aeronautics Board for routes connecting Hawaii with the Philippines, Japan, and China.

The China route is laid out via Midway Island and Tokyo, with Shanghai as terminus.

Alternate Routings—Two alternate routings link Honolulu with Manila, one via Wake Island and Saipan Island, and the other via Johnston, Ponape, Marshall, Truk and Palau Islands.

Concurrent with the Honolulu-California route, already applied for these lines would give Hawaiian a complete Pacific route. A permanent certificate is authorized which will, passenger and express service as is asked. Hawaiian plans to use four-engine landplanes in operating the routes.

Interlocking Relationship—Western Air Lines filed jointly with five of its officials for approval of interlocking relationships resulting from the recent acquisition of Indiana Air Lines. The subsequent arrangement of Western offices to interlockable positions with Indiana. The applications for approval include L. E. Dwyerhorst, Charlie N. James, Thomas Wolfe, Paul E. Bullock, and J. J. Taylor.

North Central Airlines, Chicago, Ill., applied for a permanent and/or temporary certificate to authorize scheduled mail, passenger, express and package service over 10 routes in Michigan, Illinois, Wisconsin, Iowa, Minnesota, and North and South Dakota.

Mexico Router Service—Wil-

liam Besliss, Naples, Ark., asked a certificate for a mail, passenger and cargo router line along the U. S.-Mexico border between San Diego, Calif., and Brownsville, Tex. He operates the International Airport at Naples. The application states that Besliss owns two Fairchild 24s, a purchased Waco cabin type ship, and proposes to acquire four twin-engined Beechcraft or Cesnaus. He disclosed that he is ready to invest \$35,000 in the enterprise.

Food Shipments By Air Studied

Cost penalties set by plane in test feasibility of program.

Difference of opinion as to whether the future of air transportation of perishables lies with the established airlines or with contract carriers appears to be developing as researchers continue their study of this type of commodity and its adaptation to air travel.

In one quarter studies were being made by major trunk operators, one of whom began experimental carriage of West Coast fruits to the East for the University experiment. In another a leading exponent of such transportation suggested "bump steamer" of the air, as possibly the best solution.

Taste Tests Conducted—At Detroit, a panel of 20 food experts conducted taste tests and took of the first perishable fruits sent from the West Coast to Wayne University as part of a year's experiment to determine what value each shipment may have after the war.

The students started a research program on air shipment and merchandising of such items, in which the university, United Air Lines, and the Great Atlantic & Pacific Tea Co. are cooperating.

Foods Sampled—Under supervision of Dr. Spencer Larsen of Wayne, the food tasters sampled eggs, bagged berries, plums, tomatoes, apricots, nectarines and strawberries picked less than 48 hours earlier. Official results were not made known, but J. P. Carson Blount of United's air cargo department and Earl R. French, national marketing director of A & P produce affiliate, said they were "extremely favorable."

The first shipment, non-priority like others to come, is down from San Francisco. Shipments are to be made once a month, for



Study Perishable Cargo Possibilities—One of the early studies of shipping or movement of perishables and manufactured goods is being conducted by Evans Transportation Research. Here the cutter is being discussed by (l. to r.) William A. M. Burles, Assistant Secretary of Commerce; Edward S. Evans, Detroit industrialist and authority on leading, and Secretary of Agriculture Claude R. Wickard.

a year or more. After each flavor, appearance and condition will be checked against those of the same items sent through usual market channels. The comparison will extend to laboratory studies for vitamin and sugar content, determination and weight loss.

Other Studies Under Way—As the study was developing, another by Edward S. Evans Transportation Research, in collaboration with the Department of Agriculture and Commerce, was well under way. This investigation is looking into the possible use of surplus war transport planes for passenger contract carriers as part of their studies of proposed movement by air of perishables and manufactured goods.

Founded by Col. Edward S. Evans of Detroit, industrialist and leading authority, who made a grant for air cargo research to Wayne University, the study also has the cooperation of the United Fresh Fruit and Vegetable Association and Detroit Board of Commerce. Findings are to be made public periodically.

Lands Both Ways—Currently the investigation deals with eastbound air movement of such perishables as lettuce from the Pacific Coast and the return haul of Detroit manufactured products. Evans expects it to indicate whether the best interests of consumer, producer and manufacturer, will be in fleet operation by contract carriers.

Evans welcomed private research by various agencies, but said he felt that the public interest required studies along broader lines regardless of the nature of the cargo—air mail, truck or marine. His group will work with all agencies, including those who have undertaken their own research, in an order dependent on commodities and geographical centers.

Col. L. H. Bratton, founder of Northwest Airlines and more recently consultant for the Aeronautical Chamber of Commerce and Wayne's air cargo research, is director of Evans Transportation Research Headquarters in Washington.

Warner Names Aide

Recently appointed assistant to Vice-Chairman Edward Warner of the Civil Aeronautics Board is Melvin A. Brenner. He replaces Mr. Hugo Appel. Brenner is a graduate of City College of New York and a former War Production Board economist.

ATA Studies State Legislation Plans

Six-point program recommended by committee for adoption as industry policy.

Six points on state aeronautical legislation have been submitted to the Air Transport Association by its State Relations Committee with the request that they be adopted as industry policy.

Based on recommendations by a subcommittee, they were assembled by a joint ATA's board of directors and state committee by Ross, it is that it may prove feasible for its work next year, when 44 state legislatures hold regular session, 48 starting in January.

Report—The proposed industry policies were contained in a detailed report by a subcommittee composed of Russell Cantwell of TWA, chairman, Werner Hirsch of United, and R. J. Morahan, Jr., of Continental.

Briefly, the six points are as follows:

State Regulation of Interstate Operations of Interstate Carriers

New duplicating and unnecessary will prove harmful to development of air transport and to the public interest. State regulatory and jurisdictional powers should not apply to interstate air carriers.

Taxation of Assessments—Regurable taxation is vital to development of aeronautics. Aviation taxation funds taxes and special taxes such as license and registration fees should not be imposed. State aviation taxes should be affected exclusively for aviation purposes and primarily redistributed to the users of aviation.

Airports, Airport Zoning and Air Navigation Adequate regulation of airports and related areas should be left to state and local governments, who should be uniform in terminology, standards, rates and application and consistent with Federal regulations and standards.

Enabling Legislation for Municipalities—Local governmental subdivisions can best achieve creation and development of airports and flight strips. Legislation to authorize zoning and exercise of eminent domain as to airports and landing strips should delegate responsibility to local political subdivisions.

General Laws—When applicable to aviation, state laws should be clearly defined and uniform throughout the nation.

Educational Work and Public Re-



SETS FLIGHT RECORD:

United Air Lines claims a flight record of 7 hours and 18 minutes between Anchorage, Alaska, and Portland, Ore., established recently by Capt. Robert Sallies (above) piloting a C-47 under United's Air Transport Command Alaska contract operations. The plane carried patients destined for an Army Hospital in Vancouver, Wash.

Salient Programs—Should be aggressively and consistently conducted by the industry to obtain the most practical state laws. Important that early consideration be given development of an air carrier legislative organization sponsored by states, including active participation and acceptance of responsibility by all air carriers in the industry.

Resale Formulas

Four formulas for determining resale price of DC-3 type aircraft to the airlines have been advanced. To date none has been sanctioned by those representing the purchasers.

One was recommended by the Civil Aeronautics Board. Mo. E. M. Weld, of the Materiel Command at Wright Field, proposed another later modified it, and now proposed a simpler one.

Major Weld's latest proposal would fix a standard basic price of \$72,000 for all planes of this type. As a credit against the basic price, a maximum of \$45,000 would be allowed for the cost of restoring each individual airplane to airline operating condition and standards.

The Air Transport Association officials were reported in discussion of the matter last week with high Army officers.

CAB Examiner OK's Hughes TWA Control

Tool company's holdings of airline stock found "not inconsistent with public interest."

A Civil Aeronautics Board examiner has recommended that the Board end the relationship existing between the Hughes Tool Co. and Transcontinental and Western Air as "not inconsistent with the public interest."

The proceeding grew out of an application by Hughes Tool Co. for such approval. The examiner found the 440,000 shares or 45.6 percent of TWA stock it holds Howard R. Hughes is the sole owner of Hughes Tool.

At the solicitation of TWA president Jerry Foy, the company began purchasing TWA stock in 1936, until approximately \$5,364,000 had been invested. All parties to the proceeding agreed that the percentage of stock held by Hughes Tool Co. constitutes control of TWA.

Several aspects of the Hughes Tool Co.'s activities were questioned as being "phases of aeronautics."

Contracted with Lockheed—A contract between Hughes Tool Co. and Lockheed Aircraft Corp. of June 30, 1938, covered construction and delivery of 15 Constellation airplanes. This contract restricted sales of this plane to others than Hughes Tool Co. or TWA. It was later modified to increase to 40 the number of planes Hughes Tool Co. could produce. It also permitted the governments of the United States and Great Britain, Pan American Airways, and the Royal Dutch Air Lines to acquire Constellations.

In 1942, Hughes Tool Co., with the approval of Lockheed, assigned this agreement to TWA. Under the terms of the agreement as it now exists TWA is to purchase 15 Constellations, and Hughes Tool Co.

Financial Picture

Financial reports of Hughes Tool Co. in CAB's records on the TWA company, presented earlier this year, as of Nov. 30, 1941, the company had a capital and earned surplus of nearly \$51,500,000. Current assets were more than \$22,000,000 against current liabilities of \$10,750,000.

33, the latter under an option through TWA.

All considerations manufactured are now assigned to the U.S. government, subject to an option to reacquire 40 planes by repurchase from the government.

► **TWA, Both Priority**—Stating that he was the manufacturer which would prevent the sale of Constellation-type aircraft for domestic air transport use except by TWA continue under existing disclosure.

Examiner Frank A. Low, Jr., states that "the obvious, if not expressed, purpose of these arrangements was to give TWA the benefit of the credit and financial standing of Hughes Tool in a transaction involving substantial financial responsibility."

The 25 Constellations Hughes Tool Co. is to purchase will be held "for resale and for experimental use."

Hughes Tool Co. is also manufacturing under a license contracts, aircraft parts and accessories, but the record in the case shows that this activity will not be conducted by the company after the end of the war.

While these activities might be construed as engaging in a phase of aeronautics, the examiner found that "the possibility of wrong doings is no basis for the interruption of a relationship that has not proven harmful, but on the contrary has been and may continue to be helpful to the carrier."

The only restriction Examiner Low recommended as approval of the relationship was a limitation to commercial transatlantic between TWA and Hughes Tool Co. to 15 aircraft of 40 passengers, not exceeding \$20 per seat, and aggregating annually net more than \$10,000.

Ark. 'Copter Service

Two Chicago & Southern Air Lines officials appeared before the Arkansas Corporation Commission recently against an intrastate helicopter taxi cab service proposed for that state by the North Little Rock Transportation Co. R. L. Hemminger, general traffic manager, described Chicago & Southern's plans for Arkansas Service. Reed Knight, superintendent of flying, testified on the helicopter's experimental characteristics. The line's counsel urged that the Commission delay action until it has considered all air services that are now proposed for Arkansas.



U.S.-CANADA AIR MAIL 25 YEARS OLD:

The 25th anniversary of the first international airmail flight between Canada and the United States was marked recently at Vancouver. This old photo shows Eddie Hubbard (left) and W.E. Boeing in front of their Boeing C-2 seaplane at Seattle on completion of the first airmail flight from Vancouver to Seattle in 1919. United Air Lines now operates the route.

Need of Hemisphere Port Plan Stressed

Creation of inter-American port network, development of Latin American service urged at New York conference.

Increasing stress on the importance of airport planning and development in the United States is paralleled in the 33 other American republics.

The U.S. Office of Air Transport Information urges that these

plans to have more than 1,100 civil airports in operation at the end of this year, compared with a probable 3,129 in the United States.

► **Port Survey Asked**—Delegates of all 33 American republics recommended at the first conference of Central American ports and shipping held in Panama recently that an immediate survey be made of airports and air navigation facilities in the other Americas. The conference urged by resolution the creation of a complete network of inter-American airports.

Meanwhile, a preliminary survey by the United States Defense Dept., through its American Republics Aviation Division, has shown that ton-mile volume of traffic in, to and from Latin America increased more than 300 percent from 36,344,000 in 1940 to 61,899,000 in

1943, equalling 29 percent of the U.S. domestic traffic in the latter year. Passenger traffic in Latin America was 76 percent of its total traffic last year. Cargo was 13 percent and mail 6. Comparative figures in the U.S. are 16, 7 and 17 percent.

► **Cargo Volume** — In some cases cargo was equal or ahead of passenger volume. Cargo amounted to 50 percent of total ton-miles in Central America, 44 percent in Bolivia, 32 in Colombia and 33 in Peru.

Total ton-miles in 1943 were more than the estimated total traffic carried in 1935, the last pre-war year, by all European airways, including their overseas routes.

Latin America has almost three times as many route miles as there are in the United States, but few of these are developed, and a majority of services about a sixth as high as that in this country. Average passenger fares, despite slight decreases since 1940, are about 40 percent above the U.S. level. The conference urged that fares be revised and frequency increased.

► **Unification**—The DRC reported Latin American aircraft utilization in 1943 was 3 hours per plane per day against 9.8 in the U.S. Foreign-flag carriers' average of 24 hours compared with 3.6 for U.S.-flag carriers in Latin America. But

trends indicate that the next few years will bring increased utilization, which has been low because of low service frequency, lack of night flying, inadequate maintenance facilities and the "advanced age" of many planes.

Last year 388 planes operated in Latin America, only 37 of them U.S. flag craft. Of the 246 multi-engined planes, 97 were of the modern type manufactured since 1938 and of the latter, 48 were U.S. flag ships.

5-Man Group Guides Airlines' Policies

Commerce, entering second year, stressed need for government regulation of competition.

The Airlines Committee for U.S. Air Policy, determined to keep a watchful eye on Congress and place more emphasis on regulation of competition in its discussions of post-war international air routes, begins its second year under the guidance of a five-man executive committee.

This does away with the post of chairman, which Sam Solomons, chairman of the board of Northeast Airlines, is relinquishing. Solomons will remain, however, as a member of the new executive group, to which he appointed Thomas Burke, American Export Airlines; O. M. Mowrer, American Airlines; Jack Nichols, TWA, and Robert T. Smith, attorney and representative of Northwest Airlines, and former vice-president of Pan American Airways.

Endorse Aviation Law Practices.—Solomons gave as a reason for his resignation his desire to represent Northeast as counsel in its foreign route applications before the Civil Aeronautics Board. At the same time he announced, however, that he will engage in the practice of aviation law in Washington, an independent move which led to speculation on his future association with the Northeast.

Airlines representatives who attended the "stage-door" meeting at which Solomons submitted his withdrawal made the usual recognition of committee work under his chairmanship and also approved unanimously an expansion of determinations by the 17 member airlines—16 if Western and Island are counted as one in light of their merger negotiations—to continue their campaign "against any monopoly in overseas aviation."

Competitor Regulation.—Solomons



EXPERIMENTAL TOWER:

The experimental communications and airport traffic control tower building shown above was constructed at Roosevelt, Vt., by the Civil Aeronautics Administration for \$14,000. Built chiefly of wood, the lower cost-cutting offices for the Chief of Communications, the Chief of Communications, and meteorological unit

can and at a press conference that the policy remains the same as it was when announced a year ago, but increasing stress will be placed on the condition that the free and open world-wide competition advocated by the committee be subject to reasonable regulation by appropriate government agencies. One is a long form for use at large airports where landing arrangements are more complicated, and the other a four-page folder short form for situations where airports are small and served by two or three carriers. The committee, incidentally, prefers the word "determinations" to "rulings."

Plan Tried Out.—Meanwhile, actual trial is supplementing the group's discussions. TWA, for instance, is being tried a plan under which landing fees are being adjusted on the basis of gross weight.

Agreements between airports and airlines have been notably lacking in uniformity. There have been a few test agreements, and those written have shown wide variation.

Generally the airlines believe in long-term leases, with periodic renegotiations. A recent survey by the Bureau of Governmental Research of the Chamber of Commerce at Indianapolis, where some leases are running out, indicated the agreements differ considerably.

Rate Variations Found.—The Indianapolis study showed variations in monthly schedule rates and so definite policy on second seat rates. Some leases fail to cover airfreight, pleasure or training flights. Most frequent minimum schedule rates are \$20 a month, although they vary in application from 2 to 17 monthly schedules. Five to ten year lease contracts are in the ran-

ge, although they vary from one year with monthly renewals to 20 years.

Administration leasing space rentals vary from \$1.50 to \$3 a square foot for ground floor to second floor rentals "rather common" at \$1.50 per square foot per year. The Bureau found evidence of variation in airport administration in negotiations of leases directly with city councils, boards of parkways, port boards and boards created for the purpose. Other variations exist in responsibility for installation of radio and meteorological equipment.

Incomplete data were received on fuel service and concession revenue. The Indianapolis investigators, finding that previous to the contract, terminating company tended cancellation of air mail and U.S. Postal facility contracts,

Port-Airline Leases Studied by ATA

Commerce is examining agreements with view to establishment of standard practice.

Airport agreements with the airlines, now pretty much a catch-as-catch-can proposition, are being studied by an Air Transport Association committee which hopes to establish a standard.

The Airport Agreements Committee, which meets at Minneapolis early next month, has been working on two basic types of agreements. One is a long form for use at large airports where landing arrangements are more complicated, and the other a four-page folder short form for situations where airports are small and served by two or three carriers. The committee, incidentally, prefers the word "determinations" to "rulings."

Plan Tried Out.—Meanwhile, actual trial is supplementing the group's discussions. TWA, for instance, is being tried a plan under which landing fees are being adjusted on the basis of gross weight.

Agreements between airports and airlines have been notably lacking in uniformity. There have been a few test agreements, and those written have shown wide variation.

Generally the airlines believe in long-term leases, with periodic renegotiations. A recent survey by the Bureau of Governmental Research of the Chamber of Commerce at Indianapolis, where some leases are running out, indicated the agreements differ considerably.

Rate Variations Found.—The Indianapolis study showed variations in monthly schedule rates and so definite policy on second seat rates. Some leases fail to cover airfreight, pleasure or training flights. Most frequent minimum schedule rates are \$20 a month, although they vary in application from 2 to 17 monthly schedules. Five to ten year lease contracts are in the ran-

ge, although they vary from one year with monthly renewals to 20 years.

Administration leasing space rentals vary from \$1.50 to \$3 a square foot for ground floor to second floor rentals "rather common" at \$1.50 per square foot per year. The Bureau found evidence of variation in airport administration in negotiations of leases directly with city councils, boards of parkways, port boards and boards created for the purpose. Other variations exist in responsibility for installation of radio and meteorological equipment.



PROPELLER: Trans Airco Metal propeller blade halves are joined at 9 rivet holes in closed sleeves.



ENGINE: 14 parts of Amco Metal (including hushes, valve seats, exhausts, etc.) are faced in faced scroll sleeves.



LANDING GEAR: At least 10 parts of the wheel mechanism are successfully made of Amco Metal. (Illustrated: Ball-wheel valve.)



TAIL WHEEL: Recently produced in at least 4 pieces with Amco Metal. (Illustrated: Tail-wheel valve.)

The aircraft industry relies on wear-resisting AMPCO METAL—for its margin of safety at vital spots

Where severe conditions at critical points call for alloys of clearly controlled properties, you find the response always of the aluminum bronze class—in precisely every American plane that flies today. Behind an outstanding performance is a greater concern of metallurgical specialists—resulting in a product that lasts several times as long as ordinary bronze. Ampco's broad facilities make it available in precisely every desired form.

Write for bulletin.

A-2



WINDSHIELD WIPER: — parts of Amco Metal protect this mechanism against wear and fatigue.

AMPco Metal
The Metal without an Equal

[Base part and steel sleeve.]
AMPCO METAL
Base: 3.5% Cr, 18% Ni.
Steel: 0.4% C, 18% Cr, 14% Ni.
Price and "Ampco Metal" are
and File # of Engineering Test Report
Name _____ Position _____
Company _____
Address _____
City _____ State _____

CAB Pessimistic On Feeders

Saw traffic potential at small cities not encouraging.

Civil Aeronautics Board, in its opinion on its local-feeder-picking investigation, echoed the same note of pessimism over the future of short-haul air traffic that characterized the early report by its examiners.

The Board's findings, which terminate a study initiated 16 months ago, support the conclusions by Examiners William J. Madson and Albert F. Berle that traffic potential in small cities is not encouraging.

To their controversial suggestion that extensions by presently operating air carriers be limited to cities of 50,000 or over, the Board replied that regional consolidation of applications, now established procedure, has eliminated necessity for such a restriction, proposed by the examiners, to increase optimism for feeder operators.

"Need for service of a local character," the Board said, "can be weighed in conjunction with local service proposals." In a word of caution it added that "in attempting to develop this potential, local air carriers will be competing with other highly developed road and highway transportation systems in the world."

The Board indicated a willingness to certify for the proposed type of service, but set as a safeguard limitation of such authorizations to temporary periods and their confinement to agreements which show "justifiable expectation of return at reasonable cost to the government." Belief was expressed that three years would be sufficient to judge potentialities, and the Board suggested that applications not containing request for temporary authorization be amended to do so.

The Board rejected the examiner's recommendation of a top of \$2 cents per mile fuel compensation for local services, approving the purpose but holding that no pre-determined figure should be established as a uniform measure.

In reference to helicopter applications, the opinion said: "We cannot be expected to grant an application for service which cannot be performed except by the use of a vehicle which is not obtainable for a number of years."

On proposed pickup services, the Board said, it will seek the advice of the Post Office Department, since these have been principal utility in providing postal service.

Spanish Agreement Held Significant

Authoritative State Department sources disclosed late last week that an "agreement in principle" has been worked out between the United States and the Spanish government to permit U. S. commercial planes to land in Spain. This means of reaching an agreement is cited as a significant example of the rights through negotiations between governments rather than by the system of arbitration employed by Pan American Airways which obtained such rights by private agreements between the airlines and the country involved.

U. S. Mission—A three-man mission, composed of Oswald Ryan, head of the Civil Aeronautics Board; Charles L. Stinson, Civil Aeronautics Administrator; and Fred Novinger, chief of the First Region (New York) of CAA's Air Carrier Inspection Division, is in Spain surveying technical possibilities of landings there by U. S. airlines.

Assistant Secretary of State Adel A. Becht, Jr., was understood to have done most of the negotiating for the U. S.

The agreement is interpreted as a significant move by the State Department to realize its announced intent of getting the best possible international arrangements for U. S. airlines.

State sources disclosed that the ICAO (International Civil Aviation Organization) has sought similar rights in Spain.

ATA Body Discusses Sales Agreements

The Air Traffic Conference, a division of the Air Transport Association, meets at Denver this week, expecting to set on a standard sales agency agreement and details of insurance procedure.

The proposed sales agency agreement, recommended by the conference, requires an agency committee for adaptation, closer relationship between agent and carrier in connection with sale of passenger transportation.

Agreements—Plans dealt with in-

clude scope of agent's activities, agency address and employees, designation of agency, issuance and delivery of exchange orders and tickets, collections and remittance, representations as to routing, securing of accommodations, remunerations, compensation, commissions, refunds, agency fees, liability, standards, and similar matters.

The conference also will discuss post-war plans as related to consumers for sale of air travel and general industry thinking concerning the air travel plan, carrying of specialized literature on planes, passenger trip insurance, use of concession rate ticket coupons, tariff simplification, and miscellaneous items.

Conroy Quits TWA

Vincent P. Conroy has resigned as vice-president of TWA in charge of traffic, a post he occupied nine years. His duties have been taken over by E. O. Cocke, who has been TWA's general traffic manager.

Flight Additions

Airline flight additions reported to Civil Aeronautics Board in mid-month:

All American Airways—Additional round trip Pittsburgh-Huntington, starting July 15 on AM 48.

Chesapeake and Southern—Additional round trip Memphis-New Orleans both starting July 15 on AM 8.

Delta—Additional round trip Atlanta-Fort Worth, and additional round trip Charlotte, N. C.-Atlanta, both starting July 15 on AM 8.

Eastern—Additional round trip St. Louis-Washington starting July 15 on AM 47.

PAA—Two additional round trips Norfolk-Washington and additional round trip Norfolk-Detroit, starting July 15 on AM 14.

UA—Additional round trip New York-Los Angeles and additional round trip San Francisco-Monrovia, cargo only, New York-Chicago, operating as service of Pan American, Calif., all starting July 15 on AM 2.

United—Additional round trip Seattle-Vancouver, starting July 10 on AM 8.

No discontinuances were reported.

SHORTLINES

» Royal Airways has occupied a new \$17,000 annex to its main hangar at Lash Field, Dallas. The new building is 141 feet long, contains more than 4,000 square feet, and is one of 18 buildings on more than 37 acres that make up Royal's base.

» Delta Air Lines' report for the first six months of 1944 compared with the same half of 1943 shows 36 percent increase in mail pounds, 50 percent in mail pound-miles, 57 in express pounds and 50 in express pound-miles. Passenger traffic was up 34 percent and passenger-miles 40 percent. Load factor for June was 64 percent, the year's highest, against a six-month average of 53.3.

» Mena Airways, only Egyptian civil aviation company operating in Egypt, was to begin service last month between Cairo and Damascus, according to the magazine, *World War II*. Trans World Airlines was to begin its 1944 service between Ankara and Istanbul and Ankara and Athens about the same time. A new company, Compagnie Tunisienne de Avions, C. de A., was authorized to establish an air service for mail, express and passengers in the Democratic Republic of Tunisia.

» In an announcement reminiscent of the days of peace, Pan American Airways has published special excursion fares for the public for flights from New York to New Brunswick and Newfoundland on the trans-Atlantic route in June. Round-trip fare with Midway stop, effective through Oct. 19, New York-Broadway, \$14.50; Shrine-Broadway, \$14.25; Shrine-Bethel, \$14.25; Shrine on Shrine weekly departure from La Guardia, to the limit of accommodations not used by trans-Atlantic passengers, is "modest." While winter probably, PAA says lighter fuel requirements on the charter flights have made the arrangement possible.

Bell Leaves CAB

Civil Aeronautics Board lost another of its staff of trial examiners that month when Berdon M. Bell resigned to enter private law practice. Bell had been with CAB more than two years. He will specialize in aviation law in his private practice. Examiner Vincent L. Giugni, who resigned last month, also has opened his own law office.

The rules of practice of the Board prohibit former examiners appearing before it as counsel for an applicant until six months after their resignations.

BETTER BEARINGS with INDIUM



New records for motor bearings lie—several times pre-war's best—are being turned up despite the tight situation in white metals. In INDIUM, manufacturers found the answer.

In plating INDIUM onto the contact surface of the bearing and then diffusing it, metallurgists are able to impart a high concentration of INDIUM just where needed. The hardened surface of the bearing proved far more resistant to wear, oil-corrosion, and softening, without loss of its anti-friction value.

Several builders of aircraft engines, Diesels, and motor trucks are putting this life-giving element in bearing metals for their power units. Why not see what it can do for you?



THE INDIUM CORPORATION OF AMERICA
UTICA, N. Y.

New York Office: 60 East 42nd Street, New York 17, N. Y.

EDITORIAL *

Enterprise

A UNEXPECTED CONVERSION PROGRAM for TWA's five war-worn Boeing 307 Stratoliners, already underway, has aroused keen interest in aircraft manufacturing and air transport industry boosters.

Boeing with its revised Stratoliner suddenly enters the field with a transport which may be a strong contender for post-war commercial business.

2. The *Flying Fortress* and *Stratoliner*, once powerfully considered unsuccessful and out of the question as future airliners, are coming in when they will be one of the most economical transports.

3. The development of Lockheed Constellation, on which TWA's publicity has been concentrated, seems with its second modern four-engined transport which probably will be flying in regular public service before any other craft of similar size can be converted.

Besides of the importance of its *Flying Fortress* and *Superfortress* production program, Boeing has been conceded generally in the industry as having had least opportunity to study post-war commercial requirements.

The original Stratoliners, never as profitable as originally planned, will emerge from their rebuilding process at Seattle looking more like *Flying Fortress* with a Stratoliner fuselage. They will use Fortress wings, tail, and landing gear. Wright engines with about 1,800 shaft hp. will replace the original Wright rated at 1,100 hp. each. The improvements will increase payload by almost 8,000 lbs., virtually all of which is payload.

This means that the Stratoliner's original payload will be doubled. Gross weight will be raised from an airline rating of 34,000 to about 45,000 lbs., although in their war work for the ATC the Stratoliners have been loaded above 48,000 lbs.

By using the Fortress wings, additional gas capacity will be available for longer flights, or that load capacity can be shifted to payload with less fuel. Performance figures of the new liner have not been determined.

Two of the five planes which were acquired by the Army from TWA have already been returned and are undergoing conversion at Seattle. The others are to follow shortly. All five planes may be converted in six months, probably earlier than that, because no time will be lost for re-signed equipment.

Civil Aeronautics Administration officials have expressed interest in the conversion and have inspected the procedure. The first revised ship must pass CAA tests before airline use, but thereafter certification of the prototype will pave the way for the other four unless other major changes are made.

Although manpower and other war problems will prevent construction of additional Stratoliners at this time, the possibility appears strong that when conditions permit, Boeing will be able, under demand, to go into production rapidly.

The arrangement is a credit to the ingenuity of

Boeing and TWA, and to the Army Air Forces which has permitted one of its hardest working and most successful war contractors to improve its chances for survival after the war.

Example of Unity

THIS APPEARANCE of top aircraft executives before the War Contracts Subcommittee of the Senate Military Affairs Committee was a significant step forward in the newly-established unity within the aircraft industry as exemplified by reorganization of the National Chamber of Commerce.

Moore, Ward, Woodhead, Wilson, Gouring and Berliner, all able spokesman, were not speaking for Fairchild, Consolidated Vultee, United Aircraft, General and Engineering & Research Corp. They were speaking for the industry as a whole and their well-organized, literate testimony is certain to have an important effect on future Congressional action to prevent the destruction of the world's largest aircraft production plant and thus endanger world peace.

The nation's airlines could take a leaf from the manufacturers' book. The transport industry resembles in some respect the status of the demagogued Aeronautical Chamber of a year ago. Despite their differences, there still is a widespread preoccupation and solicitude among the directors of the Air Transport Association over the continuing failure to unite for the common good of the industry and its future. The industry simply cannot afford to remain at odds with itself and most of its real friends should tell it so.

Progress

IT WAS THIRTY-THREE months of publication, AVIATION NEWS has attained its initial goal of 10,000 paid subscribers. This is months ahead of original schedules.

A high percentage of the total readership represents the leading executives of aircraft and aerospace manufacturers, the airlines, private flying, state and Federal government agencies, and associations.

All of these subscribers have paid, in advance, a yearly subscription rate almost 75 percent higher than they have ever paid for any other aviation news magazine. Renewal subscriptions, four weeks before the first subscriptions expire, were coming in from readers far ahead of the expectations of experienced circulation people.

This response is not only appreciated by the editorial staff of the NEWS. It also assures readers of a steadily stepped-up program of expansion of news facilities and editorial improvements in coming months.

ROBERT H. WOOD



Pattern indication gives the pilot a visual "picture" of his attitude, regardless of the degree of bank, climb, or dive.



No angular limitations! The Sperry Attitude Gyro indicates pitch and bank without any angular limitations.



No caging! Because there are no angular limitations, the instrument never has to be caged...not even in acrobatic



Attitude Unlimited!

Now Sperry Attitude Gyro provides pattern indication . . . has no angular limits . . . needs no caging!

WITH THE NEW Sperry Attitude Gyro Indicator a pilot can, for the first time, loop, roll, dive, climb, or fly at any angle with visibility seen, and still always know the attitude of his plane relative to the earth.

The spherical dial is marked to provide the same "pattern" type of indication whether by daylight or by any artificial light . . . a single glass tells the story.

The suspension for the spherical dial of the new Sperry instrument allows full 360° freedom of rotation in the

roll and pitch axes of the airplane.

A small gyro spinning at 33,000 rpm stabilizes the sphere and keeps it ever in relation to the earth's surface. The sphere normally rotates around the indicating sphere.

The Sperry Attitude Gyro makes instrument flying safer, easier, and facilitates maneuvers and evasive training.

With it there is no possibility of the gyro's tumbling, even in extremely turbulent air. And, of course, its advantages in combat are obvious.

Sperry Gyroscope Company

INC.

GRAND RIVER, NEW YORK • DIVISION OF THE SPERRY CORPORATION



What'll it be?

When that complex maze of lines on your drawing board soars into the sky of tomorrow what will it be—a deadly fighter or bomber—a touch-controlled helicopter—an enormously powerful airliner—or an undreamed of ship to sail the blue?

No matter what it may be, there is a Timken Bearing to give it lighter weight, compactness, maximum radial and thrust load-carrying capacity, freedom from friction.



Already, Timken engineers have developed a new series of tapered bearings that have these all-important aircraft qualities, as well as the advantages of assured smoothness of operation, conservation of power and endurance and economical maintenance. Consult us on your requirements. We will be glad to make recommendations. The Timken Roller Bearing Company, Canton 6, Ohio.

TIMKEN
TRADE MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS